

SOUTHERN TEXTILE BULLETIN

VOL. 40

CHARLOTTE, N. C., JULY 30, 1931

No. 22

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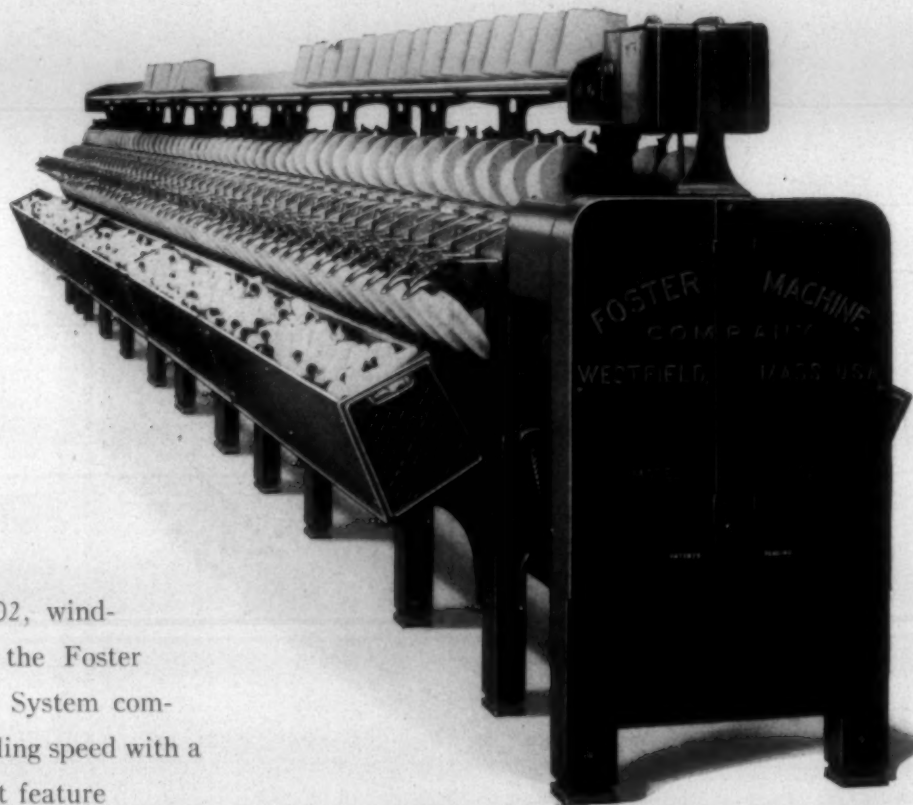
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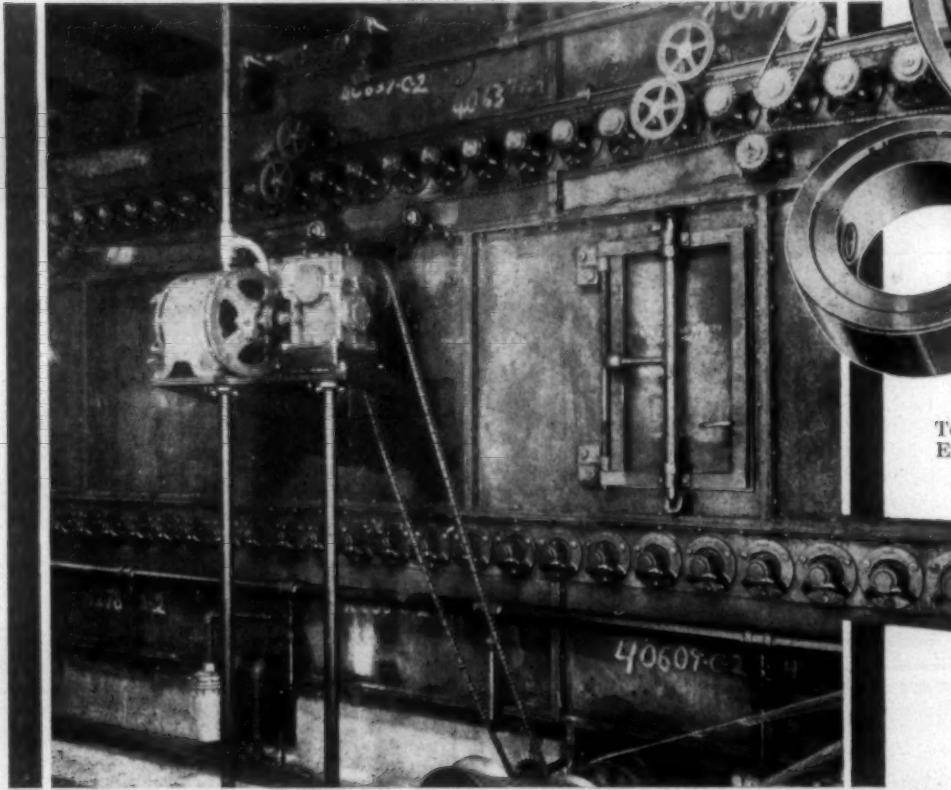
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SOUTHERN TEXTILE BULLETIN

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No. 22

Chemical Engineering Aspects of the Textile Industry *

BY RICHARD G. KNOWLAND

Vice-President and General Manager of the Bigelow-Sanford Carpet Co.

IN ANY discussion of the textile industry, one is immediately struck with the contrast which it presents to what we may term industries of modern origin. Textile methods in general were conceived many thousands of years ago and the arts of weaving and dyeing were well established centuries before technical methods or technically controlled processes became available. The industry also embraces much of craftsmanship as well as art. Since these elements are of foremost importance in the making of merchantable fabrics, it was not until recent years, when the urge of competition forced the use of more economical methods and the acquiring of hitherto unattainable effects, that a really scientific and technical background began to develop. In these respects, textiles share with the potters' art and with the leather industry the distinction of having added engineering and chemical methods as after thoughts, rather than having developed as a result of such modes of thought. Unless these facts are clearly borne in mind, the industry is likely to be put in a false light when its status from a scientific and technical standpoint is compared to that of any industry developed during the last century.

As to the functions of the chemist and engineer in textiles, their efforts have resulted in profound changes in those classes of operations which are listed below:

1. The preparation of fibers for processing.
2. Bleaching.
3. The dyeing of fibers, yarns and fabrics.
4. Printing.
5. The finishing of fabrics to confer useful and attractive effects.
6. The development of new dyes and chemicals.
7. The development of synthetic fibers.
8. The evolution of suitable testing methods for evaluating the relative resistance of fabrics to agents destructive to color or wear.

Since time does not permit any description of textile operations sufficient to afford a background, we shall have to plunge directly into a description of those general classes of textile operations which are affected by chemical engineering efforts. To this end, it will be assumed that only a general description is to be given of the use

to which the various subdivisions of chemical engineering practices are put. In the interest of brevity, the details of operations peculiar to textiles will be limited so far as is possible.

I. CONVEYING MATERIALS

Textile materials are conveyed mechanically in pipe lines by air, on belt-type conveyors, and by tractors. In the handling of raw wool or cotton fibres which have not been fabricated into yarn, air pipe lines are invariably used for all long distance conveying about the plant. Such distances may run up as high as 3,000 feet. The air velocities required for cotton or wool vary from 30 to 50 feet per second depending on conditions. Boosters are often employed on very long pipe lines where the losses from friction become excessive. Wet cotton may be conveyed by air, but wet wool of long staple cannot be thus handled because of its tendency to snarl and plug the line. Wet wool is usually conveyed by truck with or without trailers or by belt conveyors.

Cotton is carried for short distances by belt conveyor. A typical case is in the cotton picker room where a single belt conveyor with gates properly located in side-walls which enclose the belt are arranged automatically to shunt the proper amount of fiber as required into the feed box of any one of a battery of machines. Bobbin boxes and packages of yarn or laps are frequently transferred from one department to another by belt conveyor.

Since modern textile plants are highly departmentalized because of the necessary lack of continuity in the manufacturing processes, the interdepartmental use of tractors and trailers for process or finished goods is common. This is naturally true of the larger plants in particular. In silk manufacturing, where the volume of material so requires, use is also made of belt conveyors and of tractors.

In general, while the art of conveying textile materials is well enough developed, only a relatively limited number of mills are employing as economical conveying methods as they might. The cost of this operation, if fully allowed for, may be expected in an average mill to amount to about two per cent of the total cost of production. In stating such figures, by the way, for so varied an industry, and for units of widely divergent size, it should be understood that only an average figure is

*Paper presented at meeting of the American Institute of Chemical Engineers, Swampscott, Mass.

being attempted. In a large mill, however, the total annual bill for conveying materials is likely to run up to \$200,000.

II. DRYING

There are so many applications of drying in the textile industry that it seems wise to classify them as follows:

1. Drying of raw or dyed fibers
2. Drying of yarn in
 - a. Single strands,
 - b. Skeins,
 - c. Packages.
3. Drying of cloth while
 - a. Slack
 - b. Under lateral and longitudinal tension.

Before wool can be processed, it must first be "scoured" in alkali and soap to remove the grease and attendant dirt, after which it must be dried. Cotton which is raw-stock dyed must also be dried in the fiber. The method generally employed for drying such fibers is to distribute a uniform lap of the materials over a screen which travels through a dryer housing. In many cases several such screens are employed; in each case an upper screen discharges its lap on to the screens below with travel in reverse directions with respect to each other. Such dryers are usually heated by steam coils arranged at the side in boxes and circulation is provided by fans which withdraw air from the top of the dryer, pass it through the coils and then across the bottom of the dryer whence it is drawn upward through the screens carrying the fibers under treatment. Saturated air is extracted near the feed end of the machine and at the top. Automatic regulation ordinarily is not provided, although it should be. The degree of engineering skill lavished on most of these contraptions deserves little in the way of comment. One or two dryer manufacturers are now furnishing dryers, however, which afford a heat efficiency in terms of pounds of water evaporated per pound of steam of about 65 to 70 per cent. The average "raw-stock dryer," as encountered in most mills, has been found not to be good for over 45 per cent.

The chief limiting factors in raw-stock dryer design include a temperature not to exceed approximately 170 degrees for wool and not over 210 degrees for cotton if the fibers are discharged bone dry. If these temperatures are passed, wool is rendered harsh and yellow and cotton weakened in breaking strength. Wool should actually be discharged from the dryer with 8-12 per cent of regain and cotton with 6-8 per cent of regain. Consequently, in a properly designed and regulated dryer, taking advantage of the fact that the materials do not heat about the wet bulb temperature within the dryer, and that the above final regains are required, the actual operating dry-bulb temperatures within the dryer may be considerably above 210 degrees for either wool or cotton; and this without injury to the fiber.

A vast amount of work remains for the chemical engineer in the way of revamping the innumerable inefficient raw-stock dryers in use or in designing more economical ones.

Skein-dryers are similar in general external form to raw-stock dryers. The skeins, however, are placed on poles which fit into chain conveyors and are then carried through the drying chamber. The circulation is provided from top to bottom by units of fans and the heating elements are located at the side or overhead. The better operated machines provide a gentle counter-current flow of air up the dryer and for exhausting the correct amount for most efficient operation. Some of the skein dryers as developed by two manufacturers in particular are capable

of extremely efficient operation. In both cases, the material is dried well under the desired regain and then "conditioned" back in the final sections of the machine.

Temperature limitations are the same as for raw-stock. The air velocity in recirculation is important if tangling of the skeins is to be avoided. The limiting circulation velocity employed depends strictly on the density of packing because of this tangling effect. In skein drying, the factor of diffusion time must be allowed for, since the thickness of material in the bunches of yarn complicates the problems beyond that of the mere circulation of air.

It might be said that engineering principles have been recognized throughout in the design of the newer dryers. They are commonly used for rayon, silk, cotton and wool.

The drying of yarns in packages such as cops, cheeses, or on perforated beams is a gradually increasing practice. With the advent to common use of dyeing machines which force the dye liquor back and forth through such packages, drying methods naturally have evolved to permit unwinding of dyed and washed yarn in the dry state. These dryers are usually of the chamber type with the packages on racks or trays placed on trucks. In this problem, where diffusion time is the paramount factor and the matter of removing the moisture, as it diffuses to the surface, very simple, this type of dryer has proved efficient when properly designed. In some package dyeing machines, subsequent to the after-treatments and washing processes, hot air is forced through the packages as a means of drying. This practice, however, is not general, and because of the high pressures required, is not economical.

Rayon, silk, wool, and cotton are all frequently dried in the package.

Yarn dryers are commonly used in which single strands are lead in sheets over drying cells, dry-cans or cylinders, or are looped through continuous, "hot-air," dryers. The overall steam efficiency in all except the loop dryers will run up to 80 per cent where cans or cells are well covered with the sheet of yarns and where other possibilities of heat loss are provided against. Good control and a well-designed dryer are required to attain a heat efficiency of more than 45 per cent in a loop dryer, although up to 70 per cent can be gained with careful control. Loop-drying obviously provides a softer and loftier yarn, desirable in certain fabrics.

Cloth is dried in the lack form in loop dryers. Generally, it is dried on cans or in the so-called tenter-frame. In the tenting operation a group of dry cans is employed first to reduce the moisture content in the cloth to from 15 per cent to 30 per cent of regain. The cloth then is seized automatically at each selvage in the jaws of the tenter-chains and drawn horizontally through a drying tunnel. Circulation of air is usually counter current and a series of high velocity jets of hot air are often employed throughout the length of the tunnel to force the drying medium through the pores of the cloth. The tenter chains gradually spread in the passage through the tunnel, becoming parallel about half-way through. While thus held and dried stretched, the cloth assumes its permanent "set" to the desired width. To maintain this "set" accurately, the cloth at exit should carry not over 4 per cent to 6 per cent of regain. The steam efficiency of the average tenter housing is about 15 per cent to 25 per cent. Consequently, good practice requires that the dry cans which precede the tenter should perform as much of the entire drying operation as will leave the cloth extensible enough for the final stretching and drying in the tenter itself.

III. HUMIDIFICATION

In the textile industry the humidification of rooms in which manufacturing operations are carried on is general. Cotton requires an atmosphere of at least 50 per cent relative humidity for good picking, 60 per cent for carding, 60 per cent to 75 per cent for spinning, and 65 per cent to 85 per cent for weaving. Woolen and worsted fibers pick and spin better when humidified; and 50 per cent relative humidity is desirable. Woolen operations, however, are not so sensitive to variations in humidity as are those on cotton. In the cotton industry, a drop in relative humidity of 20 per cent has been known to increase warp breakage in weaving to an extent sufficient to cut in half the number of looms which were being operated per weaver. Silk and rayon operations also require a steady and controlled humidity.

In the manufacture of rayon, from the time it leaves the spinneret, controlled humidity of about 60 per cent relative is required.

The functions of humidity are to prevent static, to reduce "fly" on the yarn, to increase breaking strength, to increase elasticity, and to decrease losses in the "invisible waste" which results from the snapping of dry and brittle fibers. As suggested specifically in the case of cotton, each operation works best at some perfectly definite relative humidity.

The function of atmospheric humidity is, of course, to establish on the fibers that percentage of regain most favorable to the particular operation at hand. Variations of more than plus or minus 5 per cent relative are detectable in their effects on nearly all textile operations where the regain is a factor. Closer regulation is desirable. Consequently, the regulation of room humidity must be absolutely automatic. The types of regulators employed include those which are membrane operated, and many types of wet and dry bulb instruments. Hygrometric controls are, of course, valueless. The sensitivity of control depends on the equipment available (its type and distribution of outlets and their capacities) as well as on the kind of building involved, on the distribution of the machinery, and on the number and locations of the regulators.

In the manufacture of rayon, central station equipment is generally used. In this system air is drawn through a spray chamber in which the temperature of the spray water is so regulated as to confer the desired dew point on the air. Fans then supply the saturated air to the respective rooms.

By the use of volume dampers and steam coils, both automatically regulated by dry bulb controls, very accurate humidity conditions at a reasonable dry bulb temperature can be maintained for each room, even though a different relative humidity is required for each room. The air, after circulating about the room, returns in ducts to the central station, where the necessary amount is rejected and sufficient fresh air drawn in to maintain a fixed temperature-humidity balance in the mill. This type of equipment is also frequently found in cotton mills. From four to five air changes per hour are general in this practice.

The unit system, so-called, is gaining headway. This "unit" is really a small central station with sprays, heaters, fans and regulators. Several units may be placed on a large floor. The humidified air is discharged well above the floor at high velocity, entraining a large volume of room air as it travels from the unit. A major advantage in the unit system lies in the ease with which units are added or removed if the operations in a given department are changed.

The so-called "head-types" of humidity equipment include two chief varieties. In the first group are those known as turbo heads in which a jet of air ejects a fine mist of water into the room. In the second type an electric motor drives at high speed a disk on which falling water is broken up into fine mist. This type of equipment has a relatively high capacity and is employed where the head room is considerable. The turbo type works well for either high or low head room, but is especially adapted to the later instance.

The large majority of textile plans employ some make of head-type equipment. In all cases where good operating methods are required, automatic regulation is installed. The equipment is of relatively little use otherwise.

Dehumidification is not used in textile operations. In some textile testing laboratories it is, of course, employed with central station type humidification where absolutely exact regulation of both temperature and relative humidity is required under all conditions.

IV. EVAPORATION

The use of evaporation in the textile industry is rare. In the case of large cotton mercerizing plants, however, where the consumption of caustic soda is sufficient to justify it, evaporators are employed. Customarily, they are either triple or quadruple effect.

V. REFRIGERATION

Refrigeration is another chemical engineering process which is rarely required in textiles. In cotton mercerizing refrigerated caustic soda solutions are employed in some plants. The effect obtained is somewhat different from that derived when warmer caustic solutions are used. The concentration of alkali required for a given effect drops rapidly as the temperature is lowered.

An interesting instance of the use of refrigeration is found in the Beberlein process for the low temperature treatment of cotton cloth with caustic soda. In this process, cotton cloth assumes a permanent linen-like effect which cannot be destroyed even after repeated washing and long wear. The temperatures employed are far below those for a so-called low-temperature mercerization.

VI. HEAT FLOW AND FLOW OF FLUIDS

There are in the textile industry no problems involving the flow of heat which are not similar to those encountered elsewhere. The same may be said in regard to the flow of fluids.

The recovery of heat from waste dye or boil-off liquors is determined upon and, if necessary, put into effect by the use of interchangers, as in other industries. It might be said, however, that textile mills as a whole are wasteful of hot water and that the use of heat-interchangers is not so general as it should be. Of course, it is common practice to float automatically regulated hot-water reservoirs on the boiler lines to care for peak loads; and all well-run mills which require much process steam utilize bleeder turbines or their equivalent. The cost of coal and power is very heavy in textile operations and much work along engineering lines remains to be done for nearly all the smaller units.

VII. MAJOR PROBLEMS FOR THE CHEMICAL ENGINEER AND CHEMIST

It is somewhat venturesome to attempt to lay out the fields in which scientific and engineering work appears to be needed in the textile industry, but a few of these are listed below:

1. An economical method of recovering wool-grease residues from scouring liquors. At present the only useful by-product is lanolin, which enjoys a most restricted market. The value of the residues for fertilizer does not

(Continued on Page 27)

Practical Textile Designing

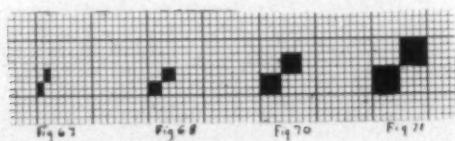
BY THOMAS NELSON

Dean of The Textile School N. C. State College

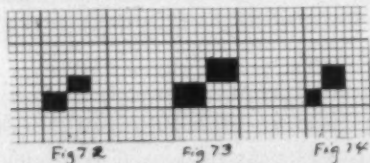
This is the sixth of a series of articles on designing by Dean Nelson, a recognized authority on the subject. The articles are extremely practical and will be found particularly helpful by the younger men who are just beginning to study designing. The seventh article will appear next week.—Editor.

PLEAIN OR COMMON BASKET WEAVES

These weaves, also called "Matt" weaves, are derived from two weaves: first, plain weave; second, rib weaves. The simplest basket weave is made by combining two threads of the simplest rib weave, this weave having previously been derived from the plain weave; hence the reason why basket weaves are said to be derived from plain weaves. Fig. 67 illustrates the 2 and 2 warp rib weave which clearly shows how it is derived from the plain weave. Fig. 68 illustrates the 2 and 2 basket weave which is simply the threads of the 2 and 2 warp rib weave

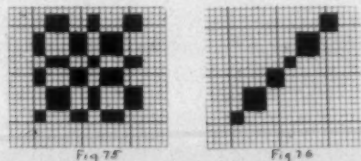


running together. The pattern is complete on four threads and four picks. Fig. 69 illustrates the weave in diagram which also shows clearly the construction. Fig. 70 illustrates the 3 and 3 basket weave made by combining three threads of the 3 and 3 rib weave. The pattern is complete on six threads and six picks. Fig. 71



illustrates the 4 and 4 basket weave made by combining four threads together of the 4 and 4 rib weave. The pattern is complete on eight threads and eight picks.

Only two harness shafts need be used to make any of the weaves given as the 2, 3 and 4 threads that work together—"mate" threads they are sometimes called—can be drawn in through one harness eye. In the 4 and 4



basket a flatter effect might be obtained by using two heddles and drawing two threads through each heddle eye. The examples given are generally used when the counts of warp and filling are about the same, also the threads and picks. When there is a difference in texture of warp and filling, or counts of yarn, a slight modification is made in the weave. For example: a fabric has to be made with basket weave, 90 threads per inch and 60 picks per inch, and the small blocks in the fabric are required to be square. The weave will have to be modified as the threads are in proportion to picks, as 3 is to 2. The weave to be used is illustrated at Fig. 72 which is

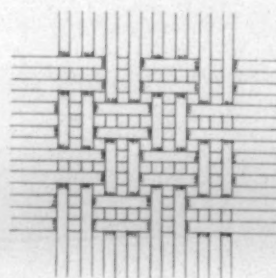


Fig 67

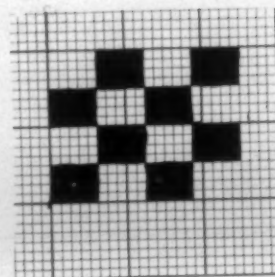


Fig 68

complete on six threads and four picks. The reason for the weave being made on only four picks is because there is one-third less picks than threads, so that when being woven the squares will be about equal in size. Fig. 73 illustrates a weave that could be used if the proportion of threads to picks are as 4 is to 3, or 80 threads and 60 picks per inch.

The weaves given are readily recognized in fabrics as they form small block effects and are used very extensively both in solids and in combination with other weaves, as they make a very neat and effective ground for a fancy fabric.

FANCY BASKET WEAVES

These fancy weaves are made by combining common



Fig 77

Fig 78

basket weaves with each other. Fig. 74 illustrates a fancy basket weave made by combining the 2 and 3 basket weaves together. Pattern complete on five threads and five picks. Fig. 75 illustrates a fancy basket weave made by combining the 2, 4 and 3 basket weaves together. Pattern repeats on eighteen threads and eighteen picks. In designing fancy basket weaves always begin at the lower left hand corner and carry the weaves diagonally to the upper right hand corner, then fill in the remainder of the pattern to correspond. For illustration, Fig. 76 represents the first step to make Fig. 75, that of running



Figure 94

the threads from lower left hand corner to upper right hand corner. Fig. 77 illustrates the upper section of design filled in with the weaves given. Notice: There are three distinct changes, 2, 4, 3. These changes must occur whether filling in the squares for threads or picks. Take for example the first two mate threads. The changes are the same, 2, 4, 3, or the next four threads the changes are the same, 2, 4, 3. The picks are the same as will be seen in Fig. 78. The first change is on two picks

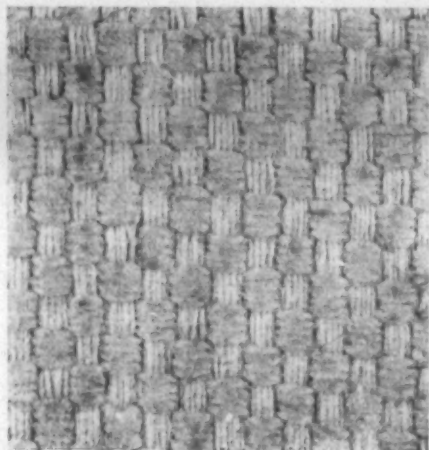


Figure 97

and the mate threads run 2 4 3 and so on through the design. Fig. 78 illustrates the lower section of design filled in.

From the above the following can therefore be deduced. After filling in the weaves diagonally as at Fig. 76, the remainder of the design is filled in either by threads or picks, each change being directly opposite to the one preceding it but the changes will always be in the same order as those diagonally.

Another point in designing these weaves is that when

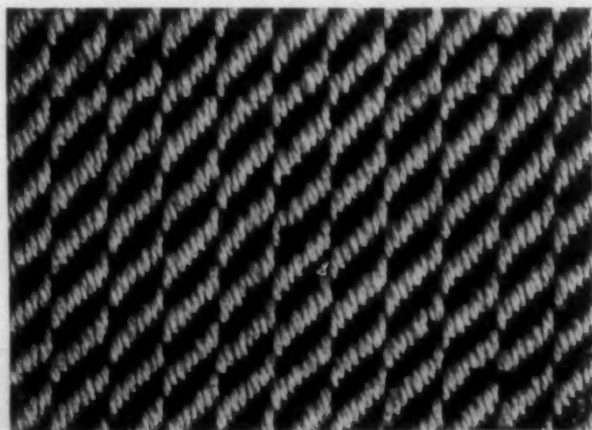


Figure 99

made with an equal number of changes only one repeat diagonally is required for the full repeat of the pattern, but when made with an odd number of changes two repeats are necessary for a full repeat of the pattern.

Fig. 79 illustrates a plain basket weave fabric in which the filling is much heavier than the warp and the threads and picks are in the proportion of five to four. The design for this is given at Fig. 80.

Seventy Billion Dollars is Value of U. S. Products

Seventy billion dollars, in round numbers, was the total value of the manufactured products of the United States in the year 1929, according to recently released figures of the Bureau of the Census. This inconceivable sum of money has been analyzed and interpreted by the National Industrial Conference Board in a bulletin issued under the title of "Manufacturing and Its Elements."

The seventy billion dollar total summarizes the operations of over 200,000 enterprises; it records the activities of more than 10,000,000 workers, managers, clerks, and wage-earners; it embodies the purchase of \$36,000,000,000 worth of materials, and the outlay of nearly \$2,000,000,000 for fuel and power. It is, in short, says the Conference Board, "a concrete expression of man's technical and material progress."

According to the statistical methods of the Census Bureau, the value of a manufactured product represents its selling value at the factory. In an analysis of this value the only elements that are known positively seem to be materials, fuel and power, and wages and salaries. All other elements, such as administration and selling expenses, taxes, rent, interest, depreciation and other overhead expense, and finally the profit, are lumped together and, along with wages and salaries, are recorded as the "value added by manufacture."

The cost of materials that enter into a manufactured product is a much more complex element in its relation to the total of manufacturing enterprises than would appear on first thought. The total value of the manufactured product reported by the census not only on the physical substances that enter into it, but also upon the organization of industry and how often these physical substances are counted—in other words, how often the product of one factory becomes the material of another.

Analyzing efforts made by previous census reports to estimate the extent of this duplication, by ascertaining the value of manufactured products that serve as materials for other factories, the Conference Board finds that the proportion of the value of such products to the total value was about one-third. On this basis the net product of manufacturing industry in 1929 was 46.7 billion dollars. This computed net product is divided into three elements, namely: raw materials that had not previously been subjected to manufacturing processes, 12.9 billion dollars; fuel and power, about 2 billion dollars; and value added by manufacture, 31.8 billion dollars.

The cost of fuel and power is so expressed in order to distinguish between fuel, used primarily in the production of power, and electric power purchased, as it were, ready-made from the public utility companies. In recent years the latter has come to be a substantial part of the power used in manufacturing industry.

The value added by manufacture, computed by subtracting from the total value of the product the sum of the cost of materials and that of fuel and power, is subject to little further analysis. Somewhat less than one-half is attributed to wages and salaries, and the remainder, to miscellaneous expenses and profits, which are not separated. Of the total payroll a little over 75 per cent goes to wages, and a little less than 25 per cent, to salaries. The share attributed to salaries is larger in 1929 than it was in earlier enumerations; in 1923 it was 20 per cent. This increased proportion of salaries workers in 1929 over that in 1923 seems to reflect the modernization of factory administration, with its emphasis upon control and supervision.

Overcoming Yarn Faults

WINDING and warping methods have never been sufficiently considered an important factor towards obtaining efficiency in the weaving shed. These processes are something more than merely transferring yarn from one process to another. All the processes that fall between the spinning or doubling frame and the loom are essential and important. If, therefore, it is possible to speed up production, and improve the quality of output of material, so much may be gained in the cost of these processes, and in the ultimate cost of the cloth.

These processes are not carried out with any degree of accuracy or scientific control. Probably in no department of a mill is there more room for reorganization and modernization of the machinery and methods employed than in the preparation department. Most careful consideration should be given to the organization and efficiency of the preparatory department of a mill. An investigation into the output of looms often reveals the large percentage of loom stoppages caused by end breakages. Analysis of these will often show that they are caused by yarn faults, which should have been removed in winding, and consist of knots, large piecings, slubs, snarls and weak places. We must always remember that good winding means good warping and weaving; bad winding, bad weaving.

The general principles underlying the operation of winding are simple but important. It is impossible to spin cotton yarns without some imperfections which have to be removed before the yarn is placed upon the weaver's beam. The objects of winding, therefore, are: (1) To remove all defects in the yarn; (2) to preserve the strength and elasticity of the yarn to the fullest degree; (3) to place the maximum length of yarn on a bobbin.

With the ordinary type of winding frame it is difficult to achieve all three objects successfully. To remove weak places from the yarn it is necessary to submit the yarn to a certain degree of tension; this, of course, assists in placing the maximum length of yarn upon a bobbin, and making it firm. We do not know, except what we have found from experience, exactly what is the best tension to apply for any particular counts and kinds of yarn. It has been found in many cases that in addition to taking out weak places in the yarn, an excessive amount of tension will also cause weak places by overstraining the yarn.

IMPORTANT FACTOR

Probably the most important factor in efficient winding is the maintenance of a proper degree and uniform tension on the yarn. If the tension is too small, a soft and easily damaged bobbin results. The elasticity of the yarn will be retained, but abnormally weak places will have been left in the yarn, which will be a detriment to good weaving. The bobbin also will not hold as much yarn as one wound under a higher degree of tension. When a cotton yarn is wound upon a bobbin with a considerable degree of tension, it is found that the yarn suffers considerably in both strength and elasticity; it takes upon itself permanent strain. Weak places are removed, but the yarn generally suffers, and in consequence a large number of end breakages result during weaving. Careful tests should be made periodically on yarn, before and after winding, in order to discover any losses in strength and elasticity due to excessive tension in winding.

The tension placed upon the yarn should be equal to

that occurring during weaving, so that defective places may be broken and removed in winding, at the same time producing a moderately firm bobbin, without permanently extending the yarn. The objects are difficult to attain with the present form of drag or tension devices, and it appears that what is required is some device to subject the yarn to a tension sufficient to break down weak places, then remove that tension before the yarn passes on to the bobbin so that it may be relieved of permanent strain on the bobbin.

Wherever possible winding should take place over-end, and not from the side. It has been found that the tension is far more irregular from side winding than over-end. Considerable variations result in tension of yarn from a revolving bobbin, between a full and empty package, and results in much strained and irregular yarn. With end unwinding the speed at which winding or warping may be carried out is not limited to the same degree as with revolving bobbins. By providing each and with a separate tension motion, each thread bears the same amount of load, giving equal tension on all the threads, which may be regulated to the required degree, according to the counts and character of the yarn. Modern developments in beam warping machines take the form of end unwinding from large cones, cheeses or bottle bobbins.

The limiting factor to speed with beam warping machines, unwinding from revolving bobbins, is the speed of the bobbins themselves. Uneven running cause considerable variation in tensions, and in consequence the maximum speed at which it is possible to run is approximately 80 yards per minute. With end unwinding speeds up to 320 yards per minute are common.

THE SLASHING

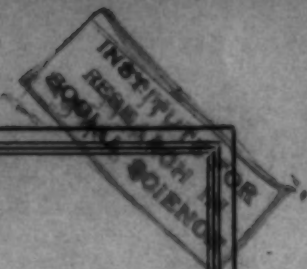
In slasher sizing the object of the tape sizer is obtain as uniform results as possible. Irregular sizing gives variation in weights of pieces, bad weaving and defects in bleaching, dyeing and finishing. What are the causes of irregular sizing? One of the chief troubles is caused by uneven concentration of the size mixing, and the running of warps when dried on the cylinders, degrees of moisture content such that the correct percentage of size is difficult to estimate. To obtain uniformity of sizing throughout in the tape frame it is essential that the strengths and concentration of the size mixings should be maintained at a constant value throughout the running of a set of beams. One of the chief causes of variation in the viscosity and concentration of size pastes which leads to irregular sizings, is the fresh-size supply valve becoming choked, the concentration being reduced. When the valve is suddenly opened and the depleted size box is filled up with fresh size from the becks, the concentration goes up. Much depends for regular sizing upon the regular working of the size-feed valve. Concentration of size is reduced largely by the ejection of live steam into the size, which are condensing reduces its viscosity, and consequently the percentage of size on the yarn.

The behavior of rayon yarns under tension is quite different from that of other yarns. When tension is applied gradually, the extension is very small up to about one-half the breaking strain; after this there is considerable extension for small increases of tension. It is on the application of tension during this latter period when the filaments begin to break. The recovery of elasticity

(Continued on Page 27)

July 30, 1931

SOUTHERN TEXTILE BULLETIN



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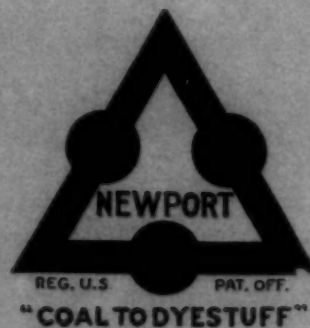
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Klein Discusses European Debt Situation

REHABILITATION of Germany, through application of President Hoover's plan for a "debt holiday" will be reflected in the enhancement by many millions of dollars of the value of our farm and industrial production, it was declared by Dr. Julius Klein, Assistant Secretary of Commerce, in a popular exposition of the effect of the war debt moratorium upon the fortunes of the American people, over a coast to coast network of the Columbia Broadcasting System.

Stressing the fact that "within a matter of days, even hours, after the President acted, the American cotton crop to be harvested next fall gained about \$100,000,000 in value; stocks and bonds representing ownership of American securities became salable for an aggregate of several billions more than they had been prior to the announcement, and a sizable list of depressed commodities found open markets and ready buyers where for weeks previous there had been nothing but stagnation," Dr. Klein pointed out that much of this benefit was wiped out by the "regrettable delays" as to acceptance of the President's plan.

HITS AT DELAY

"It would hardly be proper for me to discuss the causes of those delays," he declared, "but their effect was to foster a panic among the German people and among their commercial creditors, who feared that the promised deliverance might be lost. Runs resumed on German banks. Germans began to hoard gold and foreign currency. The population of the country even began to move out, in dread of a bolshevist revolution. The result was a second crisis, involving the whole structure of German credit and finance."

This inevitable period of negotiation and discussion somewhat lessened the original gain, he pointed out, "but even so we can see now that most of the real advance toward economic recovery has not been lost. Beyond any doubt, the expectation of a solvent Germany, the prospect of a stable nation in Central Europe, in some way meant a big and instantly realizable benefit to the people of the United States and to most of the population of the world."

Discussing briefly the heavy burden of reparations with which Germany was saddled, Dr. Klein pointed out that the terms of payment for the war debts of Germany to the Allies and the Allies to the United States worked out fairly well "until the business depression set in and deranged every financial adjustment that existed around the globe."

BURDEN OF WAR DEBTS

"The burden of war debts, which had been continually becoming rather lighter as wealth increased and the volume of international trade expended, suddenly tended to increase appallingly in every quarter, especially because of the collapse of values of raw materials."

With the great fall in world prices for commodities Germany could offer, he explained, her powers to settle the account were weakened by just that much, and American producers were quickly and sharply affected. As a result, sales of meat products alone, which in 1929 totaled about \$32,000,000, last year declined to \$15,000,000, while wheat and wheat products dropped from \$7,-

000,000 to about \$4,000,000, cotton from about \$170,000,000 to \$123,000,000, fruits from \$15,000,000 to \$12,000,000. Sales of American pork products, wheat products and cotton in 1929 aggregated about \$209,000,000, but for 1931, if they keep on at the same rate of the first five or six months, they will be but \$118,000,000, a loss of \$91,000,000.

"These things," he continued, "are supplied to Germany from all over this country, and our people everywhere are correspondingly damaged when the demand for them disappears."

DISCUSSES BUYING POWER

"If our wheat and cotton and pork growing farmers lose \$91,000,000 of their income their purchases of Detroit automobiles or California oranges or New England hardware will be just that much less."

The President's plan was aimed at the removal of this pressure temporarily, Dr. Klein asserted. "There was no cancellation of any of the accounts. There was no attempt to determine what should be done in another year. There was just the common sense conclusion, translated into action, that Germany needed a breathing spell. And there is every human probability that when she has had a breathing spell her capacity and disposition to resume payments alike will be found bettered."

"Shocks to world confidence from events like these are serious," he said. "Nevertheless, a large proportion of the values gained by the endeavor to ease the strain of German yhave not been lost. The widespread and far-reaching reactions demonstrated that the President had rightly picked the situation which represents the keylog in the world's economic jam, and designated a way for its release."

"Our securities and commodities have held some though not all of their increased worth. But the important thing, it seems to me, is that the great fear and apprehension which has paralyzed world economy for the past six months has been lifted. The factor most retarding general economic recovery thus far has been the dominance of fear—lack of faith in the payment of obligations, lack of willingness to take any normal reasonable business hazard, fear of the loss of means or the loss of employment."

LIFTED INFLUENCE OF FEAR

"In this matter the President has been successful in lifting the influence of fear from one great domain of world interest and the proof of the possibility inspires general hope that the fear will pass from other zones."

"This foreign problem," the Assistant Secretary stressed, "has a direct bearing on the status of our difficulties here in the United States. The evils issuing from it attack all our farm and factory producers. During the period of difficult negotiations some people seem to have been somewhat alarmed lest the country be drawn into European political tangles. But the President and the delegates of the United States at the London conference succeeded in holding all their endeavors to apply strictly and solely to the economic rescue of Germany. We made no political engagements. We engaged solely in economic co-operation. We followed a course dictated by the vital

(Continued on Page 23)

Some Facts About Rayon

IN a lecture before the Liecester (England) Textile Society, Dr. W. Hubbard, recently gave a number of interesting facts about developments in the rayon field. In part, he said:

In the production of the actual rayon yarn of various counts a number of tendencies are to be observed. The increasing use of yarns of lower denier, for example, is indicated by the fact that hosiery yarns of 120 denier and 100 denier are now being generally used instead of the 150 denier yarns which were formerly employed. The typical filament is tending to become 2 denier instead of 4 denier and many producers now turn out yarns of filament denier 1.5, 1.2 or even 1, in their standard productions. During 1930, for example, the Viscose Company of America brought out a 50 denier 40 filament yarn, and a 125 denier 48 filament yarn, the French Comptoir a 100 denier 60 filament viscose yarn, and American Glanzstoff a 150 denier 60 filament yarn. In cuprammonium rayon American Glanzstoff brought out in 1929 a 15 denier 25 filament yarn which was then the finest count of synthetic yarn ever produced in commercial quantities. Today the Brysilka Company use yarns of 1 denier cuprammonium filament throughout all their counts. Again Microsil and Microplex, bright and dull lustre respectively are two viscose yarns produced by Harbens having 90 filaments in the 150 denier, and 60 filaments in the 75 denier, and 60 filaments in the 75 denier, and 60 filaments in the 100 denier. Tudenza and Dulenza of Courtaulds have 72 filaments in the 150 denier, Agfa Fine Silk has a filament denier of 2 and Agafa-Travis 1 denier. In acetate yarns "Celanese" yarns have a 2 denier filament available in all counts.

A viscose yarn of improved strength was brought out by the I. G. Farben-industrie at the beginning of 1930 called Tramyl for weaving and knitting, presumably a stretch-spun viscose of the Lilienfeld type. The filament denier is 1 to 1.2. It is claimed to be three times as strong as cotton, one and a half times as strong as linen and 10 per cent stronger than pure silk. Articles and fabrics made from Tramyl yarn and Indanthrene dyed are marketed by the Spinnerei Rottweil G.m.b.H. Neckar, under the name "Rotesa." It is also understood that Glanzstoff-Courtaulds are bringing out a new fine filament viscose yarn under the name of Dusella with a filament denier of 1.5 as compared with Glanzstoff F. F. rayon of 2.5 filament denier. The general tendency therefore, may be said to be definitely towards yarns of lower denier, fine filaments and varying degrees of lustre.

The theory of the dyeing of rayons has developed very considerably during recent years. In the dyeing of cotton and regenerated rayons the dyestuff does not penetrate the micelles but enters the inter-micellar space. The dyestuff molecule then attaches itself to the surface of the micelles without affecting the fibre structure. The dyeing properties of direct dyes, which are generally used for viscose dyeings, are probably connected with the colloidal nature of the dyestuff.

The influence of wetting-out agents is also probably connected with the dyestuff's colloidal character and it is considered by Hall, for example, that wetting-out agents are only effective if they increase the dispersion of the dye, so that the particles can pass between the fibres. Stretching of viscose fibres decreases their affinity for dyestuffs, exposure to heat has a similar effect and mercerization under tension has a contrary effect. Swelling in 4 per cent sodium hydroxide without tension increases

the affinity for dyes and gives a marked improvement in the evenness of shade. These observations on the effects of alkali and stretching are all readily intelligible on the basis of the micelle theory of the structure of cellulose as previously outlined. The solution theory of the dyeing of acetate rayon has received abundant confirmation in recent years, and the solubility of a dyestuff in organic solvents is generally regarded as a criterion of its affinity for acetate rayon. In the dyeing of acetate rayon with amino-anthraquinones simple absorption of the suspension is probably followed almost instantaneously by dissolution of the dye particles in the fibre.

With basic dyes, the dyeing process is different and microscopic evidence indicates that these dyes are only held on the surface of the fibre as an unimolecular layer with possibly the aromatic portion of the molecular penetrating into the rayon, the amino groups being directed towards the water.

Perhaps a word should be included on staple fibre (i. e., artificial wool and artificial schappe), but in this particular connection new methods for production are not numerous. The production of crimp by imparting a special motion to the nozzle or to the coagulating liquid is mentioned in recent patent literature, but as far as the dry spinning of acetate rayon staple fibre is concerned there seems to be little of interest.

Rayon staple fibre yarns seem to have found little use in the knitting industry as yet, although a small amount is used in conjunction with other fibres especially wool. Knitted garments of rayon staple fibre are particularly useful for children's wear on account of their softness. By the employment of natural wool and viscose staple fibre in combination, cross-dyeing can be introduced to give mottled or marl effects according to the stage at which the blending of the two materials is done. These effects are useful in connection with knitted outer wear. For mottled effects the blending is done either in combing or during drawing while for marls the blending can be left until the final spinning operation or until the doubling process.

In woven rayon fabrics there has been a tendency during the past year towards the use of yet finer deniers, finer filaments and higher twists and also towards all-rayon constructions instead of rayon and cotton mixtures. The growth in the use of staple fibre yarns in this field is not as rapid as was anticipated but promising staple fibre fabrics have been produced in all viscose rayon staple fibre and also in combination with acetate rayon filament yarn.

Fabrics having unique properties of handle and colored effects have been so produced. Resistance to creasing of rayon fabrics has been one of the aims of fabric manufacturers who have met with considerable success in this direction by the adoption of yarns of the type mentioned above, by the selection of suitable weaves and by improved finishing methods.

So much for a review of the technical position. Coming now to the economic position, the main rayon yarn producing countries of the world (in order of quantity produced last year) are the United States, Italy, Great Britain, Germany, France, Japan and Holland. The other producing countries are less important individually but of appreciable importance collectively. Generally speaking, the larger producing countries are also the most important consumers of rayon yarn although Italy and Holland export the greater part of their production in

the form of yarn. The total world consumption of rayon in 1930 is estimated at 180,000 metric tons.

At the beginning of 1930 it was realized by rayon producers that production was outstripping demand and measures of restriction were adopted. Lack of co-operation among the various producers of the world however, rendered any effective control of output impossible, and reckless competition and price cutting followed. Prices of viscose rayon yarns in many markets consequently fell to levels which were uneconomic and certain producers were compelled to close down their plants and, in some cases, to go into liquidation.

Consumption of rayon did not expand sufficiently rapidly to make any improvement in the situation as the purchasing power of the consuming countries, especially the non-producing countries, was rapidly falling with the onset of the general economic crisis. China was already suffering from the dumping of rayon yarns by Italy in 1929 and the fall in the value of silver. A similar position existed in India and the political trouble there, together with the boycott on imported fabrics, rendered importation to that market very difficult. Japan nevertheless, during the earlier part of the year, made much headway and also in many other markets. The reasons for this progress on the part of Japan are to be found in her low production costs of rayon yarns, low weaving and finishing costs, co-ordination between the different stages of processing and marketing and proximity of large markets. Japan not only succeeded in displacing European rayon fabrics from many markets through her ability to sell at low prices, but also secured a much larger trade by displacing to some extent the business in all-cotton fabrics.

With the Asiatic outlets closed to them the European market became over-loaded with rayon, the situation being further complicated as a result of the United States market being also cut off from them by increased tariffs, American over-production, or perhaps one may say, under-consumption following the general slump in that country after the Wall street crash.

The Italian producers succeeded in disposing of a large proportion of their production in the European markets on account of their low prices (labor is relatively cheap in Italy and mass production methods are employed). Much of this Italian yarn went to Germany in spite of the tariff. As a result of this dumping of foreign yarn on the German market the German producers sought further tariff protection and in order to secure support of the home consumers a pact was proposed by which "world prices" were to be guaranteed to the German textile industries provided the latter placed 90 per cent of their requirements with the home producers. Owing to the secession of the I. G. Farbenindustrie, one of the largest producers, from the pact this agreement will probably not come into effect. However, the German textile industries benefitted considerably as a result of the low yarn prices and considerable progress was made in the export trade in rayon manufactures. As the demand for such goods on the home market also expanded greatly during the year at the expense of other textiles the German textile industries working up rayon were well employed throughout the year.

Summing up, it may be claimed that technically rayon is even now in its infancy. It is lost sight of all too often that the fibre is essentially a chemical one, and that with the advent of the chemist as provider of a textile fibre almost anything is possible. That is to say, even the properties of the fibre can be varied to suit demand whether dictated by fashion or resulting from any other cause. Should familiarity with metallic lustre meet

with the inevitable contempt it ultimately brings, then a dull lustre yarn is forthcoming to awaken a fresh interest. To meet the complaint of deficiency in covering power and heat insulating properties of the ordinary rayon yarns there is the hollow filament and fine filament yarns to supply the needed qualities. In the staple fibre field only the fringe has been touched and we may see in the future extensive application of artificial wool and artificial schappe for obtaining novelty effects, fabrics of unique properties and so on. Hall, for instance, has pointed out the possibilities of obtaining a semi-lustrous linen-like fabric from viscose artificial schappe. A wide field is presented by the combination of staple fibre with other textiles making use of the different dyeing properties. In acetate rayon the field is almost unlimited by reason of its unique dyeing properties, its capability of being saponified to give a regenerated cellulose rayon and by its solubility in organic solvents.

Seeking To Prevent Americans From Copying Designs

Paris, France. — A project for the formation of a "French Artistic Creators Association" with New York headquarters, to prevent piracy of exclusive dress and hat models in the United States, featured the second week of the fall fashion shows, beginning before throngs of American buyers.

The organization, whose formation was announced by F. G. Montabert, New York manufacturer, will be composed of the Paris Association for Protection of the Applied Arts in France, including the most prominent dress-makers.

Formation of the association was prompted by the sale in America of false models and labels bearing the names of the greatest Parisian couturiers for "ridiculous prices."

Dresses from all French dressmakers with membership in the association will bear original labels stamped "reproduction authorized by French Artistic Creators Association." A small tax will be paid for each label.

New, shimmering artificial fabrics were outstanding in the winter showings of the medium important dress-makers. The big fashion houses have not yet begun their showings.

Gleaming artificial satins in mother-of-pearl tints and soft, pliable artificial velvets in jewel tints were displayed for evening gowns and wraps.

Evening gown silhouettes featured models, or designs belted at the natural waistline, with skirts two inches from the floor. Day frocks were of brown "skin," marocan, carnation, red georgette and black romain, designed with long, fitted hip lines, natural waistlines, elaborate sleeves and skirts twelve inches from the ground.

Viscose Co. Offers New Soft Luster Yarn

The Viscose Company is introducing a new dull luster yarn which is known as "Dulest," the new yarn being duller than Dulesco, it was made known by George O. Hamlin, sales manager of the company.

The new yarn is available in 150 denier, 40 filament on cones, first quality, at 75 cents a pound. This is the only size being made at present and it is planned to concentrate the sale of the yarn to the knitting trade.

The new yarn is being sampled among the company's various customers and it is expected that quantity shipments will be available soon. The new name is pronounced "dull-est."

PERSONAL NEWS

C. L. Hood has become night overseer of weaving at the Anniston Manufacturing Company, Anniston, Ala.

Mrs. Ellen Vereen, wife of W. C. Vereen, mill executive of Moultrie, Ga., is critically ill at her home there.

O. K. Merritt has been elected vice-president of the Renfro Hosiery Mills, Mt. Airy, N. C.

W. E. Merritt, Jr., has been elected secretary of the Renfro Hosiery Mills, Mt. Airy, N. C.

G. B. Sydnor has been elected assistant secretary and treasurer of the Renfro Hosiery Mills, Mt. Airy, N. C.

W. G. Sydnor has retired as president of the Renfro Hosiery Mills, Mt. Airy, N. C., but will continue as chairman of the board of directors.

T. M. Daniel has been appointed overseer of weaving, slashing, and drawing-in at the Anniston Manufacturing Company, Anniston, Ala.

T. C. Barber, who has been secretary and treasurer of the Renfro Hosiery Mills, Mt. Airy, N. C., has been elected president and treasurer.

H. H. Brown, of Raleigh, N. C., has accepted the position of overseer of weaving at the Manetta Mills, Monroe, N. C.

Robert Atherholt, who has been with the Bedford Johnson Company, Lynchburg, Va., has been appointed superintendent of the Hampton Looms, Inc., Bedford, Va.

R. E. Lignon, prominent mill executive of Anderson, S. C., is seriously ill with pneumonia. His condition was reported as unchanged at the time of going to press.

L. A. Cottrell has been promoted from overseer of weaving, slashing, drawing-in to superintendent of the Anniston Manufacturing Company, Anniston, Ala.

Harvey W. Moore, of Charlotte, who is treasurer of the Brown Manufacturing Company, Concord, N. C., has been elected vice-president of the Merchants & Farmers Bank, of Charlotte.

John R. Schneck has resigned as superintendent of the North Carolina Finishing Company, Yadkin, N. C., effective September 1.

C. F. James, well known hosiery manufacturer of Marion, N. C., has been elected president of the Etta Paper Box Factory of that place.

Harry Gale has become associated with J. P. Stevens & Co. in a sales capacity, handling ginghams and kindred fabrics. He was formerly with Iselin-Jefferson Company.

R. W. Green, weaving technician, who has been manager of the Ashland Corporation, Jewett City, Conn., has joined the staff of the American Bemberg Corporation.

C. E. Folk, formerly superintendent of the Belmont Fabric Mill, Belmont, N. C., has become assistant superintendent of the Spencer Corporation, Spindale, N. C.

B. M. Moore, of Chattanooga, Tenn., has been appointed manager of the Charles H. Bacon Knitting Mills, of Morristown, Tenn. He succeeds W. M. Raulston, who has been transferred to the Newport Mills.

Ralph M. Odell, manager of the New York offices of the Kerr Bleaching & Finishing Works, Concord, N. C., won third prize in the recent golf tournament held by the National Association of Finishers of Cotton Fabrics. He had a net score of 75 for the 18 holes. The tournament was held at the Balusrol Country Club, Short Hills, N. J.

R. R. Davenport, formerly president of Davenport Bros., wholesale dry goods company, of Nashville, Tenn., has joined the Walter Fred Hosiery Mills, of that city. He will be in charge of the Western office of the mills, with headquarters in Los Angeles, Cal.

Chester C. Bassett, Jr., of the New York offices of the American Bemberg Corporation, has been sent to Greensboro where he will temporarily act as Southern manager, succeeding Gordon R. Hope who resigned.

P. B. Moore, who has just resigned as overseer of weaving at the Manetta Mills, Monroe, N. C., was presented with a purse of gold by the employees of his department.

E. A. Franks, formerly superintendent of the Dunean Mills, Greenville and one of the leading fine goods superintendents in the South, has accepted the position of superintendent of the Brookside Mills, Knoxville, Tenn.

Elliott White Springs, mill man and author, has just written a new novel, "The Rise and Fall of Carol Banks." It is his fourth book. Capt. Springs is president of the Lancaster Cotton Mills, Fort Mill Manufacturing Company, Eureka Mills and Kershaw Cotton Mills.

Joe Moore, of Charlotte, member of the sales staff of the Calco Chemical Company, who was seriously injured in an automobile accident several weeks ago, is reported to be somewhat improved. His condition, however, continues serious.

Warren L. Hadley, a graduate of the Textile School of North Carolina State College, who has been with the Burlington Mills at Burlington, has been transferred to Statesville, N. C., where he will act as local agent for the Duchess Fabrics Corporation.

A. T. Quantz, a graduate of the Textile School of North Carolina State College, has been transferred from the Burlington Mills at Burlington to the Pinehurst Silk Mills at Hemp, N. C., where he has charge of the supply room.

W. L. Horne, a graduate of the Textile School of North Carolina State College, who has been assistant superintendent of the Piedmont Weavers and Burlington Mills, will also be assistant superintendent of the Sherwood Tapestry Mills which were recently established in Burlington.

Gordon R. Hope has resigned as Southern representative of the American Bemberg Corporation, and has joined A. M. Tenney Associates in a similar position. He joins the latter organization, which distributes the Eastman acetate yarns, on August 1. He has been with the Bemberg interests for some years and is well known in the South.

A. R. Thompson, Jr., of Charlotte, who has been Southern manager for Rhom & Haas, has resigned that position to accept an executive position with the North Carolina Finishing Company, Yadkin, N. C. Mr. Thompson, who is a graduate of Lowell Textile School is one of the best known textile chemists in the South. He has for some time been secretary of the Piedmont Section, American Association of Textile Chemists and Colorists.

Burton F. Mitchell, who for some time has been superintendent of the processing plant of the American Yarn & Processing Company, Mount Holly, N. C., has been made general superintendent. P. H. Roberts is assistant superintendent. Other key men in the organization are: W. A. Pardue, Jr., chemist; H. W. Davenport, paymaster; Adrian Beatty, shipping clerk; R. L. Allen, master mechanic; K. E. Michael, foreman boiler room; J. F. Sumner, foreman splitting room; J. W. Nantz, foreman quilting; D. O. Farris, foreman winding; E. R. Abernathy,

foreman, packing; T. R. Fitzpatrick, foreman mercerizing room; C. T. Williams, night foreman; L. S. Jones, outside foreman, and Robert Gilliam, assistant chemist.

The appointment of James F. Roberts as sales manager of the Pelzer Manufacturing Company of Pelzer, S. C. and the Tucapau Mills of Tucapau, S. C., was announced by Allen McNab, president of both concerns. Erward M. Levanion, formerly head of the crash department, was promoted to assistant sales manager. Both appointments become effective immediately.

Print Cloth Group Meets

Greenville, S. C.—Outstanding points of interest discussed at the meeting of print cloth executives held here at the Poinsett Hotel, Tuesday, were the large increase of sales, the wholesome reduction in stocks and the current conservative production schedules of the mills.

George A. Sloan, president of the Cotton-Textile Institute, and W. S. Nicholson, president of the South Carolina Cotton Manufacturers Association presided. Over 55,000 looms were represented.

Over a period of one year, print cloth stocks have been reduced 70 per cent, and the mills have less than one-third of the volume of stocks now as compared with July, 1930. Sales of print cloth for the first six months of this year, were 33 per cent in excess of the same period last year.

In commenting upon these favorable developments, Mr. Sloan stated, "With stocks at the lowest point in three years, and with demand closely approximating that of 1929, the production of print cloth mills is nevertheless being maintained at conservative levels. Overproduction is being carefully avoided. For the first six months of 1931, production was 8 per cent less than last year. The increased sales were used to reduce the excessive stocks. The reduction in production has been still more accentuated in July, a period of unusual slack demand, with the result that the average weekly production for the first three weeks in July has been 15 per cent less than in June, and 30 per cent less than for the peak of 1929."

Mr. Nicholson expressed the opinion that the mill executives have come to realize that a favorable statistical position of this kind would be easily upset if mills went back to the ruthless scale of day and night operation, that prevailed in former years.

The discussions here clearly indicated that the constructive policies that have aided the mills in the past in avoiding over-production will continue to be followed. This in all probability will mean a continued low rate of production through the balance of July and August and until the seasonal pick-up in demand in the fall.

It was brought out at the meeting that 80 per cent of all print cloth mills, on a spindleage basis, was actually conforming to the recommendation that women and minors be discontinued. This percentage includes 78 per cent of those classified formerly as day and night operators.

A check-up in the primary market brought to light here, that the report of heavy speculation in cotton fabrics during the "Hoover Moratorium Week" was greatly exaggerated. Not more than 10 per cent of the sales made that week, which experienced the largest cotton goods sales for several years, was of a speculative character. In other words, 90 per cent of this business represented sales to consuming interests.

Among those who attended the meeting were: T. M. Marchant, of the Victor Monaghan Co.; B. B. Gossett,

Gossett Mills; Emslie Nicholson, Union-Buffalo Mills; John A. Law, Saxon Mills; Ben Riegel, Ware Shoals Mfg. Co.; Lawrence Hammett, Orr Mills; Marshall Orr, Orr Mills; Robert Henry, Dunegan Mills; Walter Montgomery; Spartan Mills; J. C. Evins, Clifton Mills, Irving Southworth, Pacific Mills, Roy Fant, B. F. Hagood, Glenwood Mills; M. L. Smith, Laurens Cotton Mills; B. E. Geer, Judson Mills; E. F. Woodside, Woodside Mills; Ernest Johnston, Woodside Mills; Marshall Beattie, Piedmont Mfg. Co.; Wm. Beattie, Piedmont Mfg. Co.; Alex Long, Arcade Mills; August Smyth, Jr., Brandon Corp.; Victor Montgomery, Jr., Pacolet Mfg. Co.; J. B. Humbert, Lonsdale Co.; and J. W. Kelley, Pelzer Mfg. Co.

OBITUARY

W. B. BRUTON

Concord, N. C.—William Baxter Bruton, 59, one of the best known mill superintendents in the South, and kinsman of General Robert E. Lee, committed suicide Tuesday morning at 10:30 o'clock by firing a bullet through his brain. Death was instantaneous.

Apparently in good spirits, Mr. Bruton had talked with his son, James, and several others less than half an hour before ending his life. The tragedy occurred in the Bruton home near Jackson Park, on the Concord-Charlotte highway.

Shortly before 10 o'clock his son, James, looked into his father's room and saw him lying on the bed as though asleep. About 15 minutes later he again opened the door of the room and this time the father, sitting on the side of the bed, greeted his son in the usual manner. The fatal shot was heard about 10:30 o'clock. Mr. Bruton was dead before any member of the family could reach his bedside. The bullet, fired from an automatic, entered the right temple and bored completely through the head, lodging in a wall of the room.

Mr. Bruton was born in Montgomery county, January 18, 1872, a son of the late Daniel Webster and Elizabeth Lee Bruton. His maternal grandmother was a niece of General Robert E. Lee. He was married to the former Minnie Ida Sorrell of Durham about 40 years ago.

One of the pioneer mill superintendents of this section, Mr. Bruton possessed exceptional acumen in textile matters. He served as superintendent of the Gibson manufacturing company for a period of 21 years, 1907-1930, and was one of the organizers of the Hobarton plant. He had been in retirement since 1930.

A graduate of the old school of cotton mill operators, Mr. Bruton served as superintendent of mills in Lando, S. C., Gaffney, S. S., and Charlotte before moving to this city. He was in charge of the Odell manufacturing plant here for several years before joining the Gibson organization.

Mr. Bruton was a member of First Presbyterian church and one of the city's most active Masons. He was affiliated with Stokes lodge, No. 32, A. F. and A. M., the John C. Drewry chapter No. 82, Royal Arch Masons and the Cannon Commandery.

Other fraternal organizations with which he was prominently identified were J. O. A. U. M., Knights of Pythias and Odd Fellows. He was a lifelong member of the democratic party.

He is survived by his wife, two sons, James and Eugene Bruton, and one daughter, Mrs. H. B. Howard.

Funeral services were conducted Wednesday morning at 10 o'clock at the home here. Interment was in West Asheville at 4 o'clock in the afternoon.

Opportunities in the Textile Industry

BY W. M. McLAURINE

Secretary, American Cotton Manufacturers' Association.

THE world is uncertain about its desires and its needs. It is constantly wanting something new and something to give comfort and ease and dignity to living. It has become so avid in its desires that it is often regarded almost whimsical and distracted. Why has this restlessness come into life and what can be done to satiate it?

This restlessness is in the textile industry. What can be done to inspire confidence and solidarity to the factors composing it? Opportunity lies here for some courageous leader. In every age, in every class, there are new conditions and new problems and so far leaders have been found who could meet the situations.

The manufacturing of textiles and the establishment of confidence in Southern textile products and mills developed some of the greatest industrial leaders in the world. That problem is no longer without solution or answer. More products of splendid texture and quality can be produced than can be marketed.

The new problem is distribution. What can be done? Chaotic conditions, conflicting philosophies so far have not developed the leader who has inspired the confidence sufficient to quiet the mass and map out a plan. Doubtless the leader is giving out the plan, doubtless he is present but has been rejected. There is opportunity here for the greatest need of the hour.

New social and economic problems are present. Human development and machinery, and factory conditions have developed them. Space and speed are two factors that are walking through the new order, wrecking present methods and calling for new ones.

The world is growing smaller and more compact with each new invention and mechanical device. Space is irrelevant insofar as earth surface is affected. Speed with its magic power transports thoughts and acts with dizzying dash. Every man or industry is the center of the universe and his radiations link him up with the world.

The average mind thinks in such small circles that its thought convolutions seldom go far before they are interfering with others and producing discords. It takes big men to give birth to big ideas. The need of the hour is for big men who can see far and plan well for the larger contacts of life. Sectional thinking is dangerous if carried too far. National thinking can be restricted too much. It is only a matter of a few generations until most of the important problems of life will be considered from the international viewpoint. Who can begin to develop this? Textile development is not a Southern problem, nor a National problem. It is far-reaching in its influence and scope.

The average mind thinks in terms of self and expediency, hence its thinking is superficial and its solutions temporary. The industry needs men who can set up signboards to show the way. There are fundamental trends in life, which if properly interpreted, will point the way. They lie deep and are far below the superficial manifestations of the seething surface. A physician would be foolish to try to remove each manifestation of scarlet fever, one by one, hoping ultimately to cure the disease. His training and experience tell him that these group manifestations are indicative of a germ that has entered

the body and that the only hope for a cure is the eradication of the germ.

In talking to a group of textile students recently, the writer advised them that if they were planning to come out and take their place in the textile world with the idea of following the beaten path of the fathers, mechanical in mind and action, that they had better enter some other profession; that already there are too many grooved minds in the textile industry today. The textile industry is suffering too much from tradition and inbreeding; there is too much ancestry worship. Industry needs today more great men of vision, who can read the trends of business and fearlessly outline a policy of procedure in keeping with conditions of today, and also pointing to the open road of the future. It seems that the industry has gotten into a bunch of blind alleys, whose termini have been reached and a certain fear, or lack of confidence, is preventing it from knocking down these barriers and hunting a new highway. This requires men of keen insight, of great analytical ability, of sane imagination, of practical planning.

Since Mr. Hoover waged his campaign on the elimination of waste, back in the factory, many kinds of efficiencies have been employed to produce more and better goods at less cost and with less waste, and these efforts have been successful. The chain stores and group buying and syndicate buying have been very effective in developing plans for securing manufactured products at the smallest possible cost. The distribution of cotton textiles is sandwiched in between an effective and efficient factory produced article and a shrewd, merciless, cold-blooded buyer. In many cases it is a long way and an unknown route, helpless, and expensive through which goods go from mill to merchant.

Perhaps the greatest opportunity in the textile industry today lies in this sector. It is the Marne where the opposing forces meet and where, at the present, fatalities on the part of producers are severe. It is unorganized salesmanship meeting organized buying. Who can meet the opportunity?

As indicated in the first paragraph of this article, this is a world of changing demands and quick demands. In many fields no product enjoys the unique distinction of being incapable of having something else substituted for it. The cotton textile industry is growing more and more competitive in this particular. There are so many substitutes that can be used in the place of cotton that unless there are men of vision, watching the trends, sensing the needs, sensing the demands, advising the mills, there will be much futility of effort. The time has changed when the factories can tell the consumers what they should use. The consumers are supreme in this period of our economic life. They are the people who are the final and only arbiters of what is necessary to be produced and in what quantity. There are great opportunities for people who have this eighth sense and can embody their ideas in a concrete and convincing way, so that the man on the job may read and profit thereby.

The textile industry has suffered seriously because of substitutes that have effectively supplanted uses that cotton goods once had. The manufacturers of these competitive substitutes have somehow given a value and a

utility to their products that have out-weighed the merits of the cotton fabric. They have gone to the public with convincing sales talk and unwavering energy and have stayed there until they have succeeded in their efforts and then they have backed these efforts up by advertising mediums and field representatives, steadily watching the reactions that have come from their consumers. There are numerous instances that could be cited in which substitutes have been made for cotton fabrics, but there are few, if any, facts on record where cotton fabrics have ever been used as a substitute for any other commodity. Where is the man who can take this situation as an opportunity and reflect glory upon himself and health to the industry?

These opportunities are imperative. They are the outstanding opportunities of the industry. They may have been vaguely stated; they may sound like a dream of some idealist, but it is a picture of the real opportunities that lie in the realm of real leadership. They are not for the consideration of the mediocre mind.

Little Change in Goods Market

By Hunter Mfg. and Commission Co.

This has been another quiet week but sales have shown a fair increase over those of last week. This is the time of year, of course, when sales are not heavy unless stimulated by an advancing cotton market.

There has been very little business placed on wide standard print cloth constructions, and here and there small lots have been sold at lower prices than we feel it is necessary to consider at this time. There has been a fair demand from the bag trade on the various widths of print cloths and we look for a little more activity in the near future on the different constructions used by this trade. Inquiry has improved on fancies in fine yarn combination fabrics and the converters' interest in cloths for spring is for something different and away from the plain unbroken surface cloths particularly suitable for printing which have been used in the last year or two. The possible exception to this is the cotton warp rayon filled flat crepes and mock crepes which are still popular and will undoubtedly be continued in next season's lines; this is indicated by the volume of business placed on these two numbers during the last two weeks.

Reports from the retail trade continue to be fairly satisfactory compared with last year but the month of July is, of course, one of the dullest months of the year. Then August 1st is the principal inventory date for retailers, which fact has naturally been reflected in the sales of finished goods to them, but we look for more activity beginning next month.

It is gratifying to note that the reports from several of the large corporations for the last quarter were better than had been expected and there are a good many signs that the long decline in business volume has ended.

Plus Signs

(Compiled by Sales Management)

Cotton exports from the United States for the year to date are slightly above the corresponding period last year.

Frigidaire Corporation's June production will be approximately 32 per cent above last year.

Devoe & Reynolds, Inc., six months profit was \$199,377 compared with \$152,148 last year.

Atlantic seaboard electric plants showed a gain of 3.8 per cent in production for the week ending July 4 as compared with last year.

John David, operating a New York chain of men's wear stores, reports for the first six months, as compared with the same period 1930, an increase of 31.7 per cent in number of garments sold, and an increase of 6.2 per cent in dollar volume.

Here's a minus sign. Actual per share net earnings of the First National Bank of New York were only \$95.07 for the first six months as against \$102.40 for the same period last year. Isn't that too bad!

June orders for standard cotton cloths were 136.8 per cent of production.

General Tire & Rubber Co.'s tire sales for the first six months were 18 per cent ahead of the corresponding 1930 period.

Glidden & Co.'s retail store sales during June were larger than any previous June in its history.

The addition to the Charleston, S. C., plant of the American Tobacco Company will give employment to 2,000 more employees.

Rayon Imports Lower

Washington, D. C.—June rayon imports totaled 114,399 pounds of yarns, valued at \$83,280, according to figures compiled by the Department of Commerce. June receipts also included 132 pounds of spun yarn and thread, valued at \$610; 350 pounds of filaments, valued at \$346; 62,980 pounds of waste, valued at \$6,727, and 86,783 pounds of cut or staple fiber, valued at \$48,657.

A marked shrinkage in imports of rayon yarns for the first six months of the current year as compared with the first six months of 1929, before tariff revision and before domestic rayon prices reached their present low levels. Receipts of foreign yarns and filaments during the first six months of the current year amounted to 1,305,176 pounds, valued at \$1,068,577. In the first six months of 1929, 9,225,655 pounds of yarns, threads and filaments, valued at \$7,058,859, were brought in, and receipts from January 1, 1930, to June 17, 1930, when the new tariff and classification went into effect totaled 4,725,880 pounds, valued at \$3,758,728.

During June The Netherlands, which sent 42,271 pounds of yarn, valued at \$22,242, supplanted Germany as the chief source of this country's imports of rayon yarns. Germany was the chief source for the comparatively small quantity of spun yarns and threads brought in during the past month.

Use Cotton For Panels

The recently discovered new use for cotton—used in the manufacture of a wool-cotton paneling for rooms or offices—is expected to consume between 750,000 to 1,000,000 bales of cotton, according to Martin Cannon, prominent mill owner of Charlotte. The new paneling, he said, is readily adapted not only to room and office finishing but to the manufacture of furniture, Pullman cars, coaches and other uses.

Increases Output

Spartanburg, S. C.—The output of the Irene Mills, Gaffney, S. C., will be increased 10 per cent in the near future, Harry C. Moore, receiver, announced after a return from New York city, where practically all finished products of the plant are sold. Since the receivership a few months ago the mills have been operating on a 30 per cent production basis.

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Print Cloth Group Does Fine Job

A number of encouraging facts that augur well for future prosperity of print cloth mills were brought out at the meeting of the executives of these mills in Greenville this week.

The print cloth group, in our opinion, has done remarkably well in setting its house in order. This has been accomplished through a common sense policy of intelligent operations, with particular attention to controlled production. A continuation of this policy is sure to keep the mills in the strong statistical position they now occupy. In popular parlance, they are "all set to go" when business revives.

It was brought out at the Greenville meeting that stocks of print cloths have been reduced by 70 per cent during the past year. At present, the mills are carrying less than one-third of stocks they had on hand in July, 1930. Sales of print cloths for the first six months of this year were 33 per cent above those for the first six months of last year.

Print cloths stocks are now at the lowest point in three years. In addition, the demand this year has been approximately as great as in 1929, which was a year of enormous production and sales. In spite the reduction in stocks in recent months and the large sales of print cloths, the mills have not been led into overproduction. They have continued to operate in accordance with demand. The production for the first six months of 1931 was 8 per cent less than for a similar period last year. The increase in sales has served to bring about a substantial reduction in stocks and control of production has been consistently maintained. July production will be materially under that of June in order to keep in line with the seasonally light demand that is usually current at this time of the year.

These statistics are cited here as an example of how intelligent operation during a poor business year has enabled the print cloth manufacturers to reach a position where they will quickly feel the benefits of an increased demand. When renewed buying comes, these mills will not, as has many times been the case in past years, be handicapped by excessive stocks that would otherwise clog the market.

It appears to us that the print cloth group has learned a lesson that will serve it well in the future. There is general realization in the group that the old order of day and night production, without regard for demand, is a ruinous policy.

In commending the policies of the print cloth manufacturers, it is only fair to add, in justice to other groups in the industry, that the trend toward increased cotton uses, particularly in wearing apparel, has been of particular benefit to print cloth and fine goods mills. As a result, the demand for print cloths has been greater than for other goods. An important point, however, is that in the face of a strong demand, the print cloth mills have kept their feet on the ground.

One of the most interesting phases of the discussion at Greenville was that in regard to distribution methods. Print cloth prices, in common with those of other cotton textiles, are much too low. The study of more profitable merchandising methods is to be one of the most important efforts of the group in the future.

What has been said of the print cloth group applies to marked extent to the other divisions of the textile industry. The first half of the year has brought about a much more general recognition of the fact that the industry has made a great deal of progress in cleaning house. It is true that some of the statements emanating outside the industry have been overly optimistic in regard to textile progress. There is no gainsaying the fact, however, that real progress has been made. Just at the moment, cotton textiles are facing the handicap of declining raw material prices. There is plenty of evidence to show that with the small stocks of cotton goods held by both wholesale and retail distributors, any improvement in cotton prices will stimulate active buying. During "Hoover Moratorium Week," when cotton advanced steadily, cotton goods business was larger than for any single week in three years and the increase in textile business was at least 50 per cent greater than that experienced by any other major industry. Buyers are fully cognizant of the stock situation and ready to operate freely at the slightest sign of improvement. And despite some of the recent market reports, the heavy June buying of cotton goods was not of a speculative character.

Authentic information shows that fully 90 per cent of the goods bought were taken by legitimate consuming industries.

As we have said before, this is no time for undue pessimism nor undue optimism. The textile mills have gone a long way in correcting many of their former bad habits and are in a position to take advantage of the upward trend of business that cannot be much longer in coming.

Bernard Shaw Comes Out In The Open

This country and England have in recent years had numerous men and women posing as philosophers and denying that they were Communists but always, at opportune times, making statements tending to help the cause of Communism.

One of these men, George Bernard Shaw of England, recently visited Russia and while there made an address containing the following statement:

"When you have succeeded in your communist revolution, which I feel confident you will, the other countries will follow you fast.

"It is for you to carry on your lead to an absolutely triumphal conclusion, a conclusion which will make it absolutely impossible for other countries not to follow you.

"As an old socialist I see in your faces a new look which one does not find in the west, but which I hope we will see there.

"Why didn't England begin the communist revolution instead of Russia? Karl Marx would have said that Russia was the last place in the world for it to begin. The English ought to be ashamed of themselves for not having been the first."

Most of the, so-called, liberals in this country would make exactly the same statement if it would not take away from them future opportunities for sowing the seeds of communism and radicalism.

There are, in our opinion, at least five members of the faculty of the University of North Carolina who would give much to be able to stand up in Russia and make the statement, made by George Bernard Shaw.

If one of them did follow the example of Shaw, we do not think that he would be greatly criticised by the head of his institution.

False Economy

The difficulty of making profits at the present time is causing some cotton manufacturers to make the great mistake of purchasing second-hand textile machinery and equipment.

In times of severe competitions such as exist now, and may exist for some time to come, every

manufacturer should seek the advantage of the best possible equipment and should hesitate to handicap his plant with second-hand and antiquated equipment.

Even at the present time there is a difference of, at least, three cents per pound between the cost of producing print cloths in South Carolina mills.

The modern and well equipped mill can make three cents per pound profit when some more antiquated and poorer equipped mills are only able to break even.

Very seldom is the initial saving in second-hand machinery realized.

We know of one recent purchase of some second-hand equipment which cost more than new machinery when cost of putting into condition and the first three months' repair bill was added to the original cost.

With second-hand machinery there most always go a weekly and monthly tax as the result of the inefficiency of the machinery and the lower quality of the product.

It is hard to pay for new machinery when profits are not in sight but it is business suicide to install second-hand machinery and pay the cost in inefficiency and upkeep.

New England has paid a great price as the result of a policy of buying and keeping antiquated equipment.

The South must not adopt the same suicide policy.

Federal Council Goes to Aid of Strikers

We note the following newspaper dispatch:

The Federal Council of Churches, through the Rev. James Myers, its industrial secretary, is conducting an investigation of conditions in the bituminous coal strike area of western Pennsylvania and West Virginia.

James Myers is the man who investigated (?) the Marion, N. C., strike and made a false report in an effort to aid the strikers.

He attends most of the meetings of the American Federation of Labor and works hand in hand with them.

Whenever there is a strike they call on Myers to make a report under the cloak of the Church and he reports whatever they want reported.

The report he made from Marion, N. C., showed a remarkable disregard for truth.

The Southern Baptists and most of the Southern Presbyterians have severed their relations with the Federal Council but every Methodist, under the yoke of a political system from which he can not escape, pays something towards the expenses and salary of James Myers and others of his kind.

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MILL NEWS ITEMS

BONHAM, TEXAS.—The Bonham Cotton Mills are soon to install 12 new looms. Part of them will be used to replace older looms and part operated as additional equipment.

BURLINGTON, N. C.—Work is to be started at once the dyeing and finishing plant to be built by the Burlington Mills, Inc. The new unit, which is expected to be completed in the fall, will be known as the Burlington Dyeing & Finishing Company.

COLUMBIA, TENN.—The first shipment of full-fashioned hose from the Massachusetts Knitting Mills was made recently when 300 dozen pairs left the plant for Boston.

J. S. Gordon, president of the enterprise, is supervising the operation of the plant. He expects to attain the peak with 400 employed before the end of the summer.

BEAUMONT, TEX.—Negotiations for a site near Port Neches on the ship channel below this city have been closed, according to report, by an Eastern textile concern. It is reported that a plant will be erected in the near future. Option on two sites on the channel were obtained by the company about 30 days ago.

LENOIR, N. C.—At the annual meeting of the stockholders of the Lenoir Cotton Mill and the Hudson Cotton Mill, which was held in this city, the re-election of officers, transaction of routine business and other matters transpired, it was reported. J. H. Beall was re-elected president and J. L. Nelson secretary of the Lenoir Cotton Mill. J. C. Seagle was re-elected president and J. L. Nelson secretary of the Hudson Cotton Mill.

GASTONIA, N. C.—Announcement has been made by the officers of the Groves manufacturing plant that the name of the new firm will no longer be Groves Mills, Inc., but Groves Thread Company, Inc.

The new dyeing and bleaching plant of the company has been completed and is now ready to do high grade dyeing and bleaching. The main output of the Groves plant will hereafter be mostly thread yarns in all sizes and counts.

CONCORD, N. C.—Fire early Friday night did considerable damage to the Gibson & Hobarton Mills, of the Cannon group. The first blaze was discovered on the first floor of the Gibson unit, about 7 o'clock, and while city firemen were fighting it the second fire was discovered in the Hobarton plant. The fire in the Gibson Mill started in the breaker room and damaged some machinery, as well as opened cotton. Officials of the company are not as yet able to make an estimate of the damage.

ARKADELPHIA, ARK.—A cotton yarn and twine spindle mill for Arkadelphia has been proposed by C. E. McKeehan, of Little Rock, and the Chamber of Commerce here has named a committee to consider the proposition. The committee includes B. W. McCromick, O. O. Meeks and Glenn Allen. Mr. McKeehan has the machinery stored in Atlanta. It is worth \$35,000, he said. He proposed to establish the mill here if citizens will take \$12,000 in stock or loan him that amount, secured by the machinery. Employment will be given twenty-five persons. A new building, 60 by 125 feet, will be required.

MILL NEWS ITEMS

WARE SHOALS, S. C.—Officials of Ware Shoals Manufacturing Company denied that they had any plans for immediate building operations there. Plans were drawn some time ago, but no further action has been taken in regard to either additions or a new plant, officials said. Whether or not the building plans will be carried out or abandoned entirely remains to be seen, although for the present there is no plan to enlarge the plant, it was said.

President Reigel is now at Ware Shoals, but it was said that his visit had no connection with any plans to enlarge the plant, or to construct an additional unit in the village.

GREENVILLE, S. C. — The St. John Manufacturing Company, 20 Cox street, will in three weeks move into the building formerly occupied by the Dodge agency and will thenceforth double their output of garments for chain stores. The new quarters, which are being remodeled, are located at the intersection of Buncombe and Rutherford streets.

In comparison with 125 girls now employed by the company, 250 will be used for manufacturing garments in the new plant.

A cafeteria will be installed in the building to serve the girls at a nominal cost.

GAFFNEY, S. C.—The Gaffney city council has voted to offer Irene Mills \$15,000 for Irene park, which is one of the noted beauty spots of this section. The offer will be transmitted to H. C. Moore, receiver of the mill, who will submit it to the court for approval or rejection.

The park consists of 8.6 acres, adjacent to the mills, with a caretaker's residence, paved walks and drives, attractive lake, and myriads of flowers and shrubbery. Developed by the late H. D. Wheat at a cost of thousands of dollars, the park has always been kept open to the public and has been a popular place for picnics and similar outings.

GREENSBORO, N. C.—Summer vacations at Proximity, White Oak and Revolution Mills will begin late this week and continue slightly more than a week.

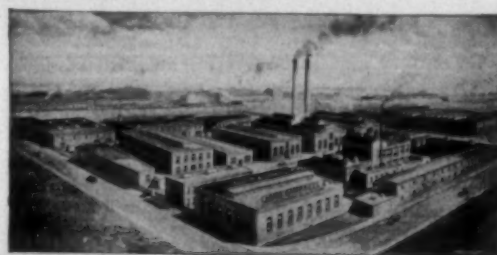
Proximity and White Oak Mills will close Thursday afternoon, July 30, and reopen at the usual time Monday morning, August 10. Revolution Mills will close Friday, July 31, and open again on the morning of August 10.

Operations will be resumed on the same schedule of running time which is now in effect, that is to say, four days a week at Proximity and White Oak and five days each week at Revolution.

It is customary for these textile mills to suspend operations for a short vacation in the summer.

ROCK HILL, S. C.—Increase of the capacity of the Rock Hill Hosiery Company building to accommodate either 100 or 200 more employees is seen likely by the new industries committee of the Chamber of Commerce.

It is reported that day and night capacity runs have the order of the plant since its erection, and unfilled orders are on hand to keep the plant going full capacity until September 30. It is expected that an effort will be made soon to raise either \$12,500 or \$25,000 for the suggested units, it is said. If the campaign is put on successfully the hosiery company will enter a new lease



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MILL NEWS ITEMS

with the building corporation for a period of 10 years, it is understood. The present lease has a little less than five years to run.

MARION, N. C.—Negotiations are still in progress between the Marion Chamber of Commerce officials and Northern hosiery interests, who desire to locate at Marion a rather large plant to manufacture full-fashioned hosiery, according to a statement made by C. F. James, proprietor of the Elizabeth James Mills, of this city, and president of the Chamber of Commerce. Mr. James remarked that while nothing definite has been accomplished thus far, the matter is by no means closed.

PULASKI, VA.—The second unit of the plant of the Virginia Maid Hosiery Mills, Inc., was recently completed. The first shipment of machinery for the new unit is now being received and will be installed at once. According to T. L. Wallner, president and general manager, it is expected to have the new unit in operation within the next two months.

HIGH POINT, N. C.—Building permit for a \$50,000 addition to the plant of the Adams-Millis Corporation, textile manufacturers, was issued here Tuesday. The new construction will include the building of an entirely new unit on English street and the addition of another story to a building already there.

The new building will cover a territory of 55 by 148 feet and will be fireproof and of reinforced concrete. The estimated cost on it is \$40,000, while for the adding of the extra story to the old plant the cost is estimated at \$10,000.

William F. Lotz is the contractor and construction will get under way immediately.

MARION, N. C.—A substantial increase in the number of machines used, with a corresponding increase in the number of employees necessary for their operation, has been made by the Marion Knitting Mill, W. W. Neal, Jr., general manager, announced.

It will be recalled that this company recently completed an addition to its plant on West Court street, the addition being 40 by 40 feet, two main floors and basement. To 100 knitting machines already in operation, Mr. Neal has added 51 others recently purchased; 14 ribbers were added to the 32 previously operated. These machines will necessitate the hiring of about 75 new people.

This mill is owned entirely by the Neal family, W. W. Neal being president; J. Grayson Neal, secretary and treasurer.

The lines have been withdrawn from the market for the time being, it was stated, until present orders are filled, as it has been found unwise to have orders coming in which cannot be filled, or would be delayed indefinitely.

Hearing On Mesh Hose Classification

Washington, D. C.—A hearing regarding classification of mesh hosiery, regarding which the question has arisen whether it should not be classified in the lace paragraph at a duty of 90 per cent, was held at the Customs Bureau before Assistant Commissioner Frank Dow. No conclusion was reached, and it is probable that another

hearing will be held at which domestic manufacturers will present their views, as the one today was informal and was held at the request of importers.

Mesh hosiery, which has enjoyed a vogue this summer, has been entered at the ports according to the rate specified in the tariff act for the various materials. A considerable portion of the imports of such hosiery have been cotton, dutiable at 50 per cent, and most of the remaining imports have been silk, or a silk and cotton mixture, dutiable at 60 per cent.

Rayon hosiery is dutiable at 45 cents per pound and 65 per cent ad valorem. Hosiery statistics are not maintained separately as to styles and exact importations of mesh hosiery and therefore are not known, but the impression prevails that this style has been brought into the country in considerable volume.

The collector at New York recently raised the question whether, in view of the changed phaseology of the lace paragraph in the 1930 paragraph, mesh hosiery should not be included in paragraph 1529 at a rate of 90 per cent as a lace article made on a knitting machine.

John Rafler, attorney for the hosiery group of the National Council of American Importers and Traders, Inc., represented that organization at the hearing before Assistant Commissioner Dow and classification experts of the Customs Bureau, the council having sought a hearing when it learned this question had been raised.

Mr. Rafler contended that it was the plain intent of Congress to omit hosiery of ordinary style and value from the lace paragraph, especially in view of the inclusion in paragraph 1529 of a clause exempting from the 90 per cent rate hosiery in chief value of cotton or wool embroidered with clocking, and imposing a duty of 75 per cent on such goods.

Mesh hosiery is made on a knitting machine with a jacquard attachment to make the pattern.

New Cotton Film Shown

Boston, Mass.—Educators from various sections of New England and students of the summer session at Harvard attended the premier showing of "Cotton From Seed to Cloth," an educational film, in the new Geography building of the university, Cambridge.

The picture is a feature of the films of Commerce-Harvard University series on commerce and industry and is regarded as the best of its kind as it is the only one in existence that actually shows what happens to the cotton fibres in the machinery during the three major operations of manufacturing, carding, spinning and weaving. It was produced under the supervision of Dr. Kirtley F. Mather, chairman, Department of Geology and Geography, Harvard University and the Nashua Manufacturing Company, one of the largest cotton manufacturers in the country. The mill scenes were photographed at the company's plants in Nashua, N. H.

Dr. Mather gave a lecture in connection with the showing explaining the various processes of manufacturing. The film tells the complete story of cotton from the planting of the seed, through the growing, picking, ginning and manufacture to finished cloth. Indian Head cloth and blankets produced at Nashua are seen in natural colors at the close of the picture.

The film is replete with animated maps showing where cotton is grown and animated charts showing that this country leads the world in growing of cotton, the output totalling 14,500,000 bales, India is second with 5,100,000, Egypt third with 1,400,000, China fourth with 1,300,000. Another animated map shows the textile production in the United States as follows: Cotton, 8,080,-

000,000 square yards, wool, 550,000,000 and silk 523,000,000 square yards and that the total number of persons employed is 489,000. Use of the film will be free to schools, churches, clubs, etc., throughout the country. The series of which this film is a part constitutes one feature of the general extension work of the Department of Geology and Geography at Harvard and are also used in courses there.

Call Cotton Conference

Austin, Texas.—Gov. Ross S. Sterling has issued a call for a conference here next Tuesday of governors and lieutenant governors of cotton growing States to discuss the cotton overproduction problem.

The call was sent out after the adoption of a resolution by the legislature, asking that such a step be taken in an effort to aid the cotton farmer.

The governor recently called the legislature into special session to consider overproduction in the oil industry.

The resolution said the purpose of the conference should be to determine what co-ordinated action, if any, should be taken by the cotton producing States to meet the problem of excess production.

Representatives of the Federal Farm Board, the Cotton-Textile Institute, commissioners and secretaries of agriculture would be invited to attend the meeting.

The resolution also said "the price of cotton is so low that the entire economic structure of the South is threatened with disruption and millions of our people are facing bankruptcy and ruin.

"This condition has been brought about by an abnormal excess of production over consumption utterly beyond control of any private agency.

"The State of Texas, producing approximately a third of the American crop and at a cost considerably lower than the average of other States, should properly take the lead in any effort to remedy this deplorable condition."

Plan Better Quality Cotton

Washington, D. C.—Representatives of cotton cooperatives, cotton manufacturers, and cotton-seed interests are to meet in Memphis at a date to be fixed soon to plan a campaign for better cotton quality, according to information received at the Federal Farm Board from headquarters of the American Cotton Co-operative Association at New Orleans.

The National Cotton Seed Products Association, accord-cotton mills will be invited, was determined upon at a meeting last week of the directors of the A. C. C. A.

The National Cotton Seed Products Association, according to the word from New Orleans, has approved in principle a program under which cotton-seed oil mills of the South will exchange improved planting seed for "gin run" seed brought to their mills from the farms.

At the Memphis meeting plans also will be made to ask Congress for legislation to require sale of cotton by net

weight, in order to eliminate the tare problem. The meeting also will lay the groundwork for a campaign to increase the use of cotton by-products for feeding livestock, etc., and to oppose legislation regarded as discriminatory against vegetable compounds.

Klein Discusses European Debt Situation

(Continued from Page 11)

interest of our people as producers and as investors of money.

"The degree of our concern here in the United States over restoration in Europe can be measured several ways. First, we find that our producers sold to Europe in 1929 goods valued at \$2,375,000,000. For 1931 our European sales, if their decline keeps on at the present rate, will sink to \$1,400,000,000. That is a loss of \$1,000,000,000 since 1929. Even allowing for the price decline factor, obviously it behooves us to use all possible means to stimulate a recovery of that buying power.

\$5,000,000,000 LOANED ABROAD

"Next we know that American investors have lent nearly \$5,000,000,000 to Europe. Of this sum \$1,200,000,000 has been placed in bonds and stocks issued by German governmental units or German corporations. Do not for a moment believe that these holdings are in the hands of our big bankers or financial institutions. They have been distributed—are spread out now, as to German securities in the hands of about 750,000 individuals in this country, people in all walks of life.

"European investors had a similar sum in like German securities—and the value of the whole collection depends upon Germany stability. These investments are all in addition to \$1,400,000,000 of those temporary, short time loans of foreigners to German business.

"In a very real sense, this is not a German crisis; it is an European peril which vitally concerns all our relations with that continent, to which the value of our annual exports, the total of our long term investments, and the sum of our short term business credits, together aggregate well over \$8,000,000,000.

"However, now that panic has been effectually arrested, the prospect is by no means discouraging. We can take the whole episode as a symptom of the grave uncertainty to which world capital has been reduced by its experiences in depression. But with the President's leadership the world is displaying new capacity to face and deal with its troubles, is proving the existence of intelligence and good will in the direction of its affairs. With fears allayed we can expect reassured capital to flow back to German accounts, supplying that nation with the necessary equipment for its vast reconstructive job.

"The enlightened self interest of mankind is the most powerful incentive toward the establishment of workable economic arrangements, and the President has skillfully guided its application at this juncture. The outcome of his efforts, the fruits of his achievement, will be garnered presently for the benefit of our industry and agriculture."

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The Food We Should Eat

By U. S. Public Health Service.

THE question of what to eat is one of our daily problems that, too frequently, is decided on the basis of convenience instead of logical thinking and accurate knowledge. The food we eat has much to do with whether we shall have a healthy body or a sick one, and improper food selection often leads to conditions that can be corrected only by long periods of proper food adjustment.

A little too much fat or carbohydrate in the diet may eventually result in obesity, which is frequently never properly corrected. An insufficient amount of certain of the vitamins may produce serious disease, permanent deformity, and sometimes death, if not corrected in time. It is indeed fortunate for our well-being that the selection of the proper foods is not difficult. The foods we should eat can be determined without the aid of a dietitian, and are available in every American city.

In addition to water, there are 5 groups of substances that must be present in our diet if we are to remain healthy. These are as follows: (1) vitamins, (2) minerals, (3) proteins, (4) fats, and (5) carbohydrates. American diets, when deficient at all, are most likely to be deficient in minerals and vitamins, and the American housewife should be particular to secure an adequate supply of these substances.

We now know of several different vitamins, all of which must be in the diet if health is to be maintained. These can be conveniently considered in three classes: First, those obtained with fats—such as butter, cream, and fish-liver oils; second, these which are destroyed by cooking and which are obtained with fresh, uncooked vegetables and fruits, such as lettuce, cabbage, tomatoes, oranges, apples, etc.; and, third, the vitamin not harmed by cooking and obtained principally with lean meats and milk.

Minerals are necessary for the proper formation of bones and blood. Milk is one of the most important foods we have for richness in minerals and vitamins. It supplies most of the vitamins and all of the minerals we need, except iron. It is especially rich in lime. Oatmeal is fairly rich in vitamins and minerals. Dried beans contain iron, phosphorus, and calcium. Spinach, lettuce, cabbage and other green leafy vegetables provide minerals and vitamins. Tomatoes, oranges, and apples are also to be recommended.

After an adequate supply of minerals and vitamins is assured, the next most important thing to be considered is the protein. The proper kind and amount of protein must be present or normal growth and development will not take place. It has been estimated that the daily diet of an average man should contain about $3\frac{1}{2}$ ounces of protein. If we secure our protein in the cheapest manner (that is, in vegetables, particularly beans of various kinds), we obtain a protein of poor quality, and in order to make the diet correct we must add protein of higher quality, such as that from milk, milk products, meats, fish, and eggs. Those who can afford it usually prefer to have most of their protein in the more costly form of eggs and meat on account of their palatability. Protein from milk and meat is known as complete protein, on account of its good quality, and the fact that it does not require the addition of protein from other sources.

After attending to these items, the energy value of the diet should be taken into consideration. We must know how much to eat in order to have enough fuel to do our

work without using the body tissues. In order to know this we estimate the fuel value of the diet in calories. The calorie is simply a convenient unit of measure. One ounce of protein or carbohydrate supplies about 115 calories, and one ounce of fat about 264 calories; and so all that we have to do is determine the composition and amount of the food we eat in order to know the fuel value of our diet. Most books on nutrition and dietetics give tables showing the caloric value of definite amounts of the common foodstuffs. It has been estimated that an American man or woman living a quiet life at home, with little exercise, needs about 2,500 calories a day; if working, without much exercise, 3,000 calories; on light work, 3,500 calories; and if doing hard work, 4,000 or more calories are necessary.

Fats are important additions to the diet on account of their high energy value. They supply about twice as much energy as an equal weight of protein or carbohydrate, and thus relieve the body of the necessity of dealing with an excessive amount of material in order to obtain a large number of calories. The most important fatty foods are butter and cream, because of their palatability and ease of assimilation, and because they carry vitamins with them. It is difficult to obtain a sufficient caloric intake in a diet which is without fat. However, an excessive amount of fats tend to cause digestive upsets in certain individuals and gives a disagreeable feeling of heaviness after eating. On the other hand, a proper quantity gives a desirable feeling of comfort and well-being. Improperly fried foods should be avoided, since grease soaked through the food tends to obstruct the work of the digestive fluids.

Carbohydrates are necessary in order for the body properly to use the protein and fats in the diet; and for this reason the bulk of the diet should be made up of carbohydrates, which may be obtained from the large number of starchy and sweet foods.

In addition to making the diet nutritionally sound, there are other important things to be considered. One of these is roughage. A certain amount of roughage seems to assist the body in handling the waste products of digestion. A sufficient quantity is usually obtained from the green vegetables in the diet. If enough of these are not eaten, bran or other cereal may be added to the diet, unless there is some condition which makes it inadvisable to include such items.

Another factor is palatability. An attractive table of well-prepared food tends to increase food consumption. The diet may also be planned so that there will be no feeling of hunger at the end of the meal. Certain foods are known to have a greater satisfying value than others. Meats of various kinds are most important in this respect. Butter and other fats, and soups containing meat extractives are also valuable; and a dessert, or other sweet food taken at the end of the meal, increases its satisfying effect. Thus, a prominent American nutritionist states that a meal consisting of, first, a soup containing meat extractives; second, meat and potatoes, to which may be added starchy vegetables, then a salad with an oil dressing, and ending with a dessert, gives the greatest degree of satisfaction.

Some of the leading nutrition experts in the country have summarized a man's normal dietary needs, in order to enjoy health, as follows: One quart of milk, two salads, two liberal helpings of the leafy portions of green

vegetables, one small helping of any meat, and two eggs. He may add to this anything within reason that his appetite demands, including a liberal supply of bread, butter, fruit, and various vegetables. It should be remembered, however, that if we eat more food than we need, the body stores up part of the excess as fat, and continued overeating leads to unsightly deposits of fat in the body. On the other hand, an insufficient amount of food leads to emaciation, even if all of the necessary dietary factors are present. We must, therefore, watch the quantity as well as the quality of the food we eat.

Weevils Increase At Alarming Rate

Clemson College, S. C.—Cotton is growing and fruiting rapidly in all sections of South Carolina, but the weevils are increasing at a greater rate than the squares and bolls, says H. W. Barre of the experiment station and adds that damage in many fields is already serious.

Examinations made by the station in 83 fields in eight counties show infestations ranging from two per cent to 82 per cent, an average of 46 per cent infested squares being between these two extremes.

In many fields, the cotton is large enough to shade the ground thus protecting weevils that are developing in the fallen squares, and under such conditions the weevils are expected to increase rapidly, the beginning general migration in the central and eastern counties within two or three weeks.

Now is the time calcium arsenate dust can be used most effectively in these counties. Two or three applications at four-day intervals will protect the young bolls during the next two weeks. Five pounds of calcium arsenate per acre should be the maximum amount per application, but four pounds if applied properly is better.

Our Cotton In The Orient

A significant development in the matter of world consumption of American cotton is the unusually heavy exportation of cotton during the present year to the Oriental countries.

Exports to Japan, China and India during the first five and a half months have totaled 837,000 bales, which compares with 357,000 during the same period last year, and with 467,000 bales during the corresponding period of the "boom" year of 1929. The New York Cotton Exchange Service, in quoting these figures, says that one has to go back to 1927, when rising prices were stimulating heavy forward buying, to find larger exports of cotton from this country to the Orient in the same five and a half months.

Much has been said in the last year or so about the growing competition of foreign-grown cotton, particularly Indian cotton, with the product of the American farmer, but it would seem to be clear from these figures that the American staple is still in heavy demand in those parts of the world. As a matter of fact, the Indian staple is of a lower grade than American, and while it is quite suitable for certain kinds of textile products the quality of American cotton is essential for numerous other fabrics. Between American and Indian cotton there is probably not nearly the amount of actual competition that is sometimes thought. The hundreds of millions of people of the Oriental countries consume great quantities of cotton cloth, and their demands will inevitably increase gradually, in the average. They will need more and more American cotton despite the great amount of the short staple varieties they produce.—*Greenville Daily News.*

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Southern Textile Bulletin

U. S. Plans Larger Cotton Research

Washington.—Department of Agriculture plans to enlarge and co-ordinate research work for cotton include collective working upon the supply and demand problems and other problems connected with distribution and marketing, which it is hoped to center in a small committee within the department, according to Secretary Hyde, who is the author of an article appearing in the Country Gentleman.

Speaking of the co-operatives, Mr. Hyde says: "For the marketing of cotton, we are trying to develop a co-ordinated system of co-operatives. Co-operative marketing can not bring the millennium in a year. It will win its way by the results it achieves. It must do two things. It must market the product at less expense and thus save for the farmers a greater share of the consumer's dollar; and second, it must pay for its commodity, must put a market premium according to quality on quality production. Co-operative marketing can do more. It can give farmers a better realization of their common interest in adjusting production to market demand, and it can provide the organization through which they can effectuate their plans as a single united force.

"Under our present system," Mr. Hyde adds, "production costs must be measured against world standards of cost under competitive conditions. We can not and ought not to task our people to match living standards with those of cotton producers in India, Russia, China and Egypt.

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Chemical Engineering Aspects of the Textile Industry

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repay the cost of recovery under present methods. Legislation against stream pollution, however, may force this issue without regard to the economics of the case.

2. Work should be done to determine whether useful by-products cannot be derived from wool scouring residues. At least 150,000,000 pounds of such residues are annually discharged to waste in the United States.

3. The dyeing of cotton, wool, rayon or silk in the piece is generally a rapid process. Dyeing yarn and raw-stock are time-consuming processes.

Means for speeding up the dyeing cycle for yarns and raw-stock would result in very large economies.

4. Quicker means than those generally employed for boiling-off cotton cloth before bleaching and dyeing should be introduced.

The removal of the waxes and gums natural to cotton fibers and of motes must be accomplished in order to assume even bleaching and dyeing. Common practice is to "boil" the cloth or yarn under pressure in kiers holding up to 10,000 pounds of material for from 4 to 16 hours. The chemicals used are soda ash with or without soap or "soluble oils" as assistants. Tri sodium phosphate is also used. The general use of a good continuous process to replace the cumbersome and costly kier-boiling is greatly to be desired.

5. A good continuous dyeing process for all raw-stock fibers would be advantages. Only one such machine has ever been made to work successfully and this has so many difficulties connected with it that its use can hardly become general.

The above represent a few general suggestions as to problems requiring attention. Primarily, on dyestuffs, chemicals, and new processes or finishes, the most important problems are chemical. The influence of chemical engineering control, however, to a greatly increased degree would result in major economies in nearly any mill and on any of the above items.

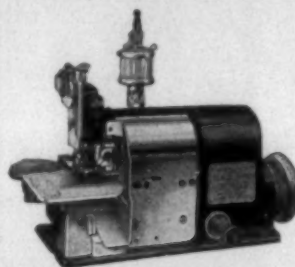
Overcoming Yarn Faults

(Continued from Page 10)

of the yarn is also very small when compared with other yarns, in particular when excessive tension is applied that goes beyond the "yield point" of the yarn. Tension on rayon yarns should be kept below this "yield point."

The resistance to friction of rayon yarns is considerably less than with yarns of staple fibres. Individual filaments are easily broken by rough places on yarn guides or hank swifts. Wherever possible the yarn should be conducted over glass or porcelain guide surfaces. Filaments that get broken in any of the preparatory processes gives considerable trouble when the yarn reaches the loom, whether it is intended for warp or weft. Being continuous filaments, once they are broken they cannot easily detach themselves from the remainder of the thread in the same way that a single staple fibre can, and in consequence rub back along the others until finally the thread is broken out. Broken filaments are difficult to repair, and knots are difficult to get through the reed in the loom.

The hanks of rayon require to be carefully opened out before being placed upon the swifts for winding. They should not be given a severe shaking, as is common when winding cotton hanks.—*Textile Manufacturer of England.*



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COTTON GOODS

New York.—Business in cotton goods markets was quiet last week although it was slightly better than during the previous week. The weak and erratic trend of the cotton market caused most buyers to postpone covering except on their most pressing needs. It is felt here that many of the buyers will not be interested in larger orders until after the government cotton crop condition report on August 8. Further curtailment of production is reported and the July output is expected to be well under that of June.

Some constructions of narrow sheetings are growing quite scarce. Bedspread manufacturers who opened their lines report that buyers are not quite ready to proceed freely. There are yet some stocks of sheets and pillow cases that are being offered out at very low prices, and although many of the larger plants are curtailing production sharply, buying interest has continued light. Wash fabrics are being cleaned out steadily and printers and finishers are doing less business in booking new orders. The demand for industrial cotton goods continues quite sub-normal due to inactivity in steel, mining, transportation, building and some other industries.

Some sales of combed broadcloth were reported to have been made in the vicinity of 11¼c. Inquiries were about for lots of a few hundred pieces of 128x68 and 144x76 combed broadcloths, but prices were unchanged and no imposing yardage totals were reached.

Inquiry for combed lawns was better. It was reported that some sales of 40-inch 88x80 8.50-yard had been made in moderate amounts at 9¾c and that 96x92 7.50-yard and 96x100 7-yard 40-inch goods had been of interest at 11c and 12c, respectively. Some mills asked ¼c higher on the latter two numbers, but good makes were obtainable at the sale prices. Sales of some small amounts of 60x52 regular hard twist 40-inch combed voiles were made at 6¾c.

Cotton goods prices were quoted as follows:

Print cloths, 28-in., 64x60s	3½
Print cloths, 27-in., 64x60s	3½
Gray goods, 38½-in., 64x60s	5
Gray goods, 39-in., 68x72s	5¼
Gray goods, 39-in., 80x80s	6¼
Brown sheetings, 3-yard	6¼
Brown sheetings, standard	6½
Brown sheetings, 4-yard, 56x60s	6
Ticking, 8-ounce	14
Denims	11
Dress gingham	12½-13¼
Standard prints	7¼
Staple gingham	8

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YARN MARKET

Philadelphia, Pa.—There was little change in the yarn market last week. The lower cotton market resulted in a somewhat smaller business than during the previous week. At the same time dealers reported that there was a fair trade in small orders for prompt delivery. Neither the lessened demand or lower cotton prices had any material effect on spinners quotations. The market held at the previous levels and a considerable amount of business was turned down on account of low prices offered. It is understood here that curtailment in the South is increasing and that July production will be very small. All reports here indicate that stocks continue very small in all divisions of the market. Both buyers and sellers are waiting a more definite trend in the cotton market before considering larger business.

One encouraging feature noted last week was that export trade in yarns showed some improvement.

The market for combed yarns continued very limited. Aside from scattered business covering small poundage there was little interest in the combed numbers.

A fair quantity of carded knitting yarns were reported sold at 25c for good quality 30s single cones. Ordinary quality may be had much cheaper. Good quality 10s are bringing 17½c, while ordinary grades were sold at 16½c to 17c. Plush manufacturers' orders are spotty, some mills being fairly active, while others are doing very little business. Local houses doing business with the plush mills say that very little yarn in 12s, 20s and 30s two-ply moved into consumption in that direction.

Leading factors of the trade point out raw cotton is doing nothing to help cotton yarns. Fluctuations have resulted in similar fluctuations in cotton yarns. On the strength of the advance late last week some yarn mills advanced prices, but found themselves without business on the counts they advanced because the increase was not general enough to establish the market at the higher figures. Most business was placed with mills which had not advanced prices.

Southern Single Skeins		26s	23½
10s	18	30s	25
12s	18	40s	32½
16s	18½	40s ex.	34
20s	19	50s	41
26s	22½	60s	47
30s	24	Duck Yarns 3, 4, and 5-ply	
Southern Two-ply Chain Warps		8s	18
8s	17½	10s	18½
10s	18	12s	19
12s	18	16s	20
16s	19½	20s	20½
20s	19½	Carpet Yarns	
24s	23	Tinged Carpet, 8s, 3 and 4-ply	16½
30s	25	White Carpet, 8s, 3 and 4-ply	17½
36s	31½	Part Waste Insulating Yarn	
40s	33	8s, 1-ply	15½
40s ex.	35	8s, 2, 3 and 4-ply	16
Southern Single Skeins		10s, 1-ply and 3-ply	16½
8s	17½	12s, 2-ply	17
10s	17½	16s, 2-ply	18
12s	18	22s, 2-ply	19½
14s	18	26s, 2-ply	22
16s	18½	30s, 2-ply	23
20s	19	Southern Frame Cones	
24s	22	8s	17
26s	22½	10s	17½
28s	23	12s	17½
30s	24	14s	18
Southern Two-ply Skeins		16s	19
8s	17½	18s	19½
10s	18	20s	20½
12s	18	24s	22
14s	18½	26s	22½
16s	19½	28s	23½
20s	19½	30s	24½
24s	23		

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Put Them All in Cotton

The first bale of cotton ginned in Texas was sent to the market in 100 per cent cotton bagging, thereby setting a shining example for the other twelve or thirteen million bales that will be coming along over the next six months, from all parts of the belt. If they all come cotton-clad, there can be no question that an important new use for cotton will be developed that should have an effect upon the price.

If that is to be done, however, there is probably need for a more definite understanding to be reached immediately throughout the American cotton world, and adequate provision made at the same time to enable approved cotton bagging to be available to farmers at the various ginneries at prices comparable with jute. Numerous cotton mills have agreed to pay for seven extra pounds of cotton when wrapped in cotton bagging in order to compensate the farmer for the lighter weight of the cotton covering. There should, however, be definite announcement from the various cotton buying agencies throughout the country as to what proposition they are in position to make. To make possible the widest possible use of the cotton bagging there should, in short, be a clear-cut pledge to the farmer that he will not have to pay a premium of seven pounds of cotton in using cotton instead of jute wrapping. If it is possible to secure such a pledge, uniformly given by all persons and agencies who will be buying cotton from the farmer during the coming harvesting season, and if at the same time a proper form of cotton bagging is made available at all ginneries at satisfactory prices, there is good reason to believe that a large additional amount of cotton will be used this year for cotton bagging, replacing imported jute. — Greenville Daily News.

Spindle Hours Decline

Washington. — According to preliminary figures made public by the Bureau of Census, Department of Commerce, 32,881,468 cotton spinning spindles were in place in the United States on June 30, of which 25,798,910 were operated at some time during the month, compared with 26,397,906 for May, and 27,659,308 for June, 1930.

The aggregate number of active spindle hours reported for the month was 6,630,044,007. During June the normal time of operation was 26 days, compared with 25½ for May,

25 2-3 for April, 26 for March, 22 2-3 for February, and 26½ for January.

Based on an activity of 8.91 hours per day, the average number of spindles operated during June was 28,619,719, or at 87 per cent capacity on a single shift basis. This percentage compares with 89.9 for May, 94.3 for April, 91.2 for March, 87.2 for February, 80.8 for January, and 76.2 for June, 1930. The average number of active spindle hours per spindle in place for the month was 202.

Co-operate to Help Cotton

New Orleans.—Joint action of organizations of cotton growers, cotton seed breeders, cotton seed oil mills, and textile mills to improve the quality of cotton and extend its uses is announced by the American Cotton Co-operative Association.

The announcement followed a meeting this week of the board of directors of the association.

The National Cottonseed Products Association, the announcement said, has approved in principle a program under which cottonseed oil mills of the South will exchange improved planting seed for farmers' "ginrun" seed. A joint committee of the co-operatives and the cottonseed interests is scheduled to meet soon at Memphis to work out a campaign for better cotton quality.

This committee, the association said, also will initiate efforts to increase the use of cottonseed products for feeding livestock and to fight any State legislation regarded as discriminatory against vegetable compounds.

The next Congress, it was further said, will be asked by the co-operatives and the Cotton-Textile Institute to require that cotton be sold by net weight in order to encourage cotton wrapping of bales, since the cotton bagging weighs seven pounds less per bale than the jute bagging now in general use.

One report made to the association directors showed an increase of 14 per cent this season in the consumption of cotton goods due to organized sales promotion and greater use of men's cotton clothing.

A report on improved planting seed showed that cotton handled by the co-operatives of the last few years has been higher in staple value than the southwide averages.

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Mill Village Activities

Edited by Mrs. Ethel Thomas—"Aunt Becky."

Goldville, S. C.—Joanna News

The man who wins is the man who works,
The man who toils while the next man shirks,
The man who stands in his deep distress,
With his head held high in the deadly press—
Yes, he is the man who wins.

VILLAGE NEWS

Miss Frances Davis spent the week-end with Miss Helen Smith, Clinton, S. C.

Mr. and Mrs. Foster Franklin and Miss Sallie Mae Franklin, of Whitmire, S. C., spent Sunday with Mr. and Mrs. J. G. Franklin.

Miss Ruth Adams spent the past week with her sister, Mrs. S. H. Keels, Newberry, S. C.

Mrs. Jesse McCravey and children, of Chester, S. C., are spending the week with Mr. and Mrs. E. L. Thomas.

Mrs. Joe Berry, of Saluda, S. C., and Mr. and Mrs. Robt. Jones, of Columbia, were Sunday guests of Mr. and Mrs. Sandy Evans.

Mrs. C. V. Moore, of Gaffney, S. C., is spending the week with Mr. and Mrs. R. G. Carr.

Misses Jessie Waldrop and Ruby Westmoreland, of Greenville, S. C., spent the past week with Miss Sarah Edwards.

Mr. and Mrs. T. D. Hancock and Mrs. John K. Moore, of Gaffney, were week-end guests of Mr. and Mrs. R. G. Carr. Mrs. Carr accompanied them to Columbia Sunday to visit J. K. Moore, who is undergoing treatment in a hospital there.

Miss Alice Yarborough returned yesterday to Barium Springs, N. C., after spending several weeks with her sister, Mrs. Grady Golden.

Thursday past, Mrs. J. E. Hamm and Mrs. Daniel Martin visited Mrs. Walter Wright, who is a patient in Mary Black Hospital, Spartanburg, S. C.

Mr. and Mrs. Floyd Meeks, of Belton, and Mr. and Mrs. Robert Meeks, of Honea Path, spent the week-end with Mr. and Mrs. J. K. Meeks.

Miss Annie Hawkins, of Belton, is spending a few weeks with her sister, Mrs. J. K. Meeks.

Ray Wertz, Ray Bragg, Fred Bragg, Lee Nelson and Cecil Blakely visited Twin Lakes near Columbia Sunday.

Mr. and Mrs. John DuBois and son, Donald, are expected to return today from Oswego, N. Y., where they have spent a three weeks' vacation.

The Boy Scouts had a splendid trip to Twin Lakes last Thursday.

BIRTHS

Born to Mr. and Mrs. B. R. Boozer, a son, on July 3rd.

Born to Mr. and Mrs. C. J. Campbell, a daughter, on July 9th.

Born to Mr. and Mrs. Henry King, a daughter, on July 13th.

Born to Mr. and Mrs. J. C. Mack, a daughter, on July 14th.

JENKINS-ROWE

A wedding that came as a surprise to their many friends was that of Miss Mary Jenkins and Mr. Genius Rowe. They were married Saturday afternoon, July 11th, in Newberry, S. C., the Judge of Probate officiating.

MISSIONARY SOCIETIES

The W. M. S. of the Methodist church held its monthly meeting Tuesday evening, July 7th, at the home of Mrs. M. H. Manley. Miss Margaret Warren led the discussion, the topic of which was "Forestalling Illiteracy." After the program ice cream and cake were served by the hostess.

The W. M. S. of the Baptist church met in the Girls' Club rooms Friday evening, July 17th.

JOANNA WINS TWO GAMES SATURDAY

Joanna A team won over Watts Mill with a score of 10 to 0, Saturday past. Bauknight pitched a corking good game. Galloway got four hits out of five times up.

Joanna B team beat Molohon 15 to 9 at Newberry. B team has reorganized with James Dendy as manager, and is out to win the second half.

Joanna A team won the game with Whitmire last Wednesday. This gave Joanna the championship for the first half in the Mid-State League.

She Had a Coat Like Mine

"Cora Lee, get ready and go to town and buy that coat you've been raving about the past month," Ma said to me on a recent payday.

Of course I did not have to be told the second time and soon the coat was mine. I saw Jack, my best sweetheart come in the store, so I put my new coat on,—a beautiful black and white check that I had coveted since it was first shown in the spring styles.

Over at another counter I saw Jim Bradley critically examining a coat exactly like mine, and wondered what he could want with a lady's coat, for he wasn't married and had no sitser.

Jack's face lighted up with pleasure when he saw me, and he walked back home with me and as he had some business to attend to that would keep him rather late that night, it was arranged that he'd see me home from the show, to which I would go with my parents.

We hadn't been in the show long till I saw what Jim Bradley had done with the coat like mine. He had bought it for Maggie S—— and she was proudly wearing it, and in company with Jim. She and I are the same size and look very much alike in dim light.

Jim and Maggie passed out just ahead of my parents and me, and about the time they stepped on the sidewalk there was a terrible commotion.

I heard and recognized Jack's voice in angry protest and started out to see what the trouble was, but Pa jerked me back:

"Cora Lee, it's a fight. Don't rush out and show your ignorance!"

"But it's Jack!" I screeched and jerked lose from pa and sailed out to help him. Maggie was dancing a jig and began yelling at me to make Jack stop beating Jim.

I got hold of Jack's coat tail and she got hold of Jim's and we pulled and tugged and yanked while the crowd kept increasing, some laughing and urging us on. Finally we got them separated and they stood there glaring at each other like hyenas.

At last Jack's gaze shifted from me to Mag and back again, and he commenced to grin sheepishly.

"Gosh, Jim!—I didn't know there was another coat like Cora Lee's,—and I thought you had my girl! Forget it, and shake!"

They shook hands, the crowd cheered, and Jim invited Jack and me to go with him and Mag to an ice cream parlor, and we accepted.

An Enjoyable Birthday Dinner

The old home was gay with flowers, lights and laughter last Saturday evening when friends and relatives to the number of twenty-seven gathered to celebrate the birthday of our oldest son, Cecil V. Thomas, overseer night weaving, Newberry Cotton Mills, Newberry, S. C.

Among the out-of-town guests were Cecil V. Thomas and wife, and W. M. Thomas, Newberry, S. C.; Mr. and Mrs. E. S. Ward, Roanoke Rapids; Mr. Albert Todd, Parkersburg; Mrs. N. C. Hasty, Wadesboro; Charles, and C. G. Lampley, and Mrs. B. F. Lampley, Norwood, N. C.; Miss Pinkie Long, Atlanta, Ga.

Guests from in and around Charlotte: Mrs. W. M. Morris, Mr. and Mrs. Dan Prosser, Mr. and Mrs. Herbie Clark and Herbie Clark, Jr., Mr. Edward Morris, Mr. and Mrs. James Springs, Dr. and Mrs. C. S. Britt, Rev. J. C. Grier, and others.

There are few things that a mother enjoys more than fixing up nice things for her children, and though there was an undercurrent of sadness because of the broken family circle, we were as happy as could be under the circumstances.

FOOD FOR THOUGHT

Work is the salvation of the sons of wealthy parents. A good education, a healthy interest in sports, a dignified outlook on life, a regard for one's family and a decent regard for the conventions will forestall any tendency toward the wild-oats period which children of the rich are

accustomed to have. I believe the son of a father who has built up a great name for himself is in duty bound to carry on his father's work, conscientiously and enthusiastically. The greater part of one's life is spent in work—many of our happiest hours. A devotion to work brings, in my opinion, other blessings. To achieve success not by heritage but by individual effort is the greatest joy of life.—J. P. Morgan.

Kentucky Philosophy

"You Wi'yum, cum 'ere sir—dis instunce.
Wha' dat you got under dat box?
I do' wan' no foolin', now,—You hear me?
Wut you say? 'tain't nuffin but rocks?
Pear ter me you owdashus p'tickler.
S'pos dey some new kine.
I'll des take a look at dem rocks.
Hi yi! Do you tink I's bline?"

I calls dat a water-million, you scamp,
En I know whar it growed.
It cum frum de Jimmerson cawn field
Dar on ter side er de road.
You stole it, you rascal—you stole it!
I watched you frum down in de lot.
En time I gits through wid you, nigger
You won't be eben a greasy spot.

I'll fix you. Mirandy! Mirandy!
Go cut me a hick'ry—make hase.
Cut de toughest en keenes one
You can fine on de place.
I'll larn you Mr. Wi'yum Joe Vettters
Ter steal en ter lie, you black sinner,
Disgracin' yo' ole Christin mammy
En makin' her burn up de dinner.

Now ain't you 'shamed er yo'sef? I is.
I'se shame you's my son.
En de holy accordin' angel—
He's shame er what you's dun.
En he's tuck it down up yander
In coal-black, blood-red letters—
"One water-million stoled
By Wi'yum Josephus Vettters."

En what you 'spose Brer Bascum,
You' teacher at Sunday School,
'Ud say if he knowed how you' broke
De good Lawd's Golden Rule?
Boy, whar's de raisin' I gin you?
Is you bon' to be a black villun?
I's s'prised dat a chile er yo mammy
'Ud steal any man's mater-million.

En now, I's gwiner cut it right open
En you shant have nary bite.
Fuh a boy dat'll steal water-millions
En dat in day's broad light—
Ain't—Lordy! It's green! Mirandy!
Mirandy! cum on wid dat switch!
Well! Stealing a GREEN water-million
Who eber heard tell o' sich?

Can't tell w'en deys ripe? Why you thump 'em.
En w'en dey goes pank, dey's green;
But w'en dey goes punk—now lissen—dey's ripe
En das w'at I mean.
En nex time you hook water-millions—
Now hear me, you ignerunt skunk—
Ef you doan want er lickin all oveh
Be sho dat dey allers go "punk."

CLASSIFIED ADS.

FOR SALE—Patents No. 1636602 and No. 1478915. Prevents flaws in cloth, and shocks and wear in machinery. Patent office in Washington will furnish copies, giving full information for 20c each. For financial reasons will sell at a sacrificed price of \$5,000 each. C. O. Maddox, Winder, Ga.

OVERSEER OF WEAVING—Open for position. Six years as overseer on shade and broadcloth, dobbies, cotton and rayon. Graduate from International Correspondence School in cotton fancy weaving. Answer "Production," care Southern Textile Bulletin.

WANTED—Position as superintendent or assistant superintendent by a man 35 years old who has worked in cotton mills 20 years. Textile graduate. 6 years out of college. Two years assistant and 2 years superintendent of same mill. If your costs can be cut, I can cut them. Address X. Y. Z., care Southern Textile Bulletin.

WANTED—Position as overseer of carding or combing. Age 36, married, go anywhere. Textile graduate, past seven years overseer of carding and combing on numbers from 30's to 90's. Address J. N. B., care Southern Textile Bulletin.

MILL, treasurer's assistant open for employment to take charge finances and accounting; excellent training and experience; references. Address E. C. S., care Southern Textile Bulletin.

FINISHER, Napper, Cloth Room Man, 42 years of age, 14 years experience, 10 on present position, would like to make change. Will go anywhere. References from present employers. Address F. R., care Southern Textile Bulletin.

SURPLUS STOCKS—Wanted offerings of stocks of Textile Chemicals. State makers, quantity and price wanted. Address "Surplus Stocks," care Southern Textile Bulletin.

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To Issue Hosiery Report

Philadelphia. — The six months' stock report of the year will be issued next week by Dr. George W. Taylor, Department of Industrial Research, University of Pennsylvania, it has been announced.

The report will cover 90 per cent of the stock on hand in the hosiery industry. The report was compiled from reports of 200 hosiery manufacturers. The stock is broken down into several classifications, including gauges, type of material used and weights.

Unfilled orders for each variety of hose will be given and compared with the stock on hand. Estimated capacity of the reporting manufacturers will also be shown as well as the number of dozen of pairs produced during June.

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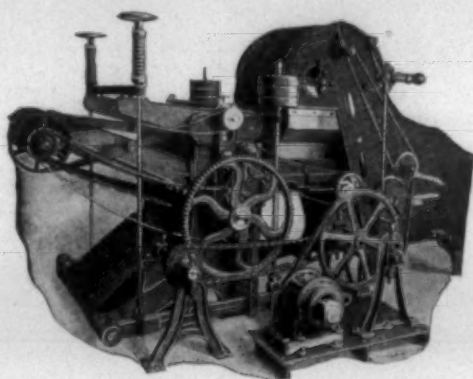
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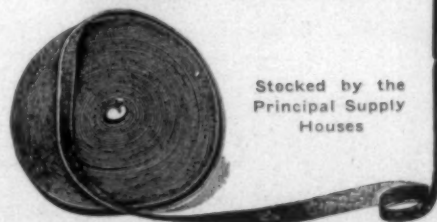


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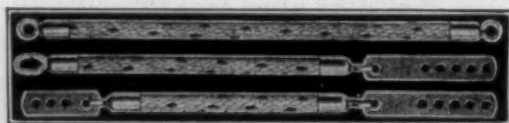
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